

**Environmental Assessment for the
Proposed Construction of a Gas Station,
Car-Care Center, Shoppette and Class Six,
and Taco John's Restaurant at
Keesler Air Force Base, Biloxi,
Harrison County, Mississippi**

Contract No. HQ-00-PZC-013

January 2003



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14. ABSTRACT AAFES, the contracting agency for the proposed project, would construct a consolidated facility including a gas station, car-care center, shoppette and class six, and fast food restaurant for use by authorized patrons at Keesler Air Force Base (AFB). These patrons would include primarily active-duty and retired military personnel, their family members, and certain categories of reserve military personnel. The new facilities would be collocated and centrally located on the base. The preferred site (Alternative 2) for construction of the proposed action would involve the construction of the proposed facility in an area that is already dedicated to similar land uses. The proposed facility would be constructed on a site that is already developed and would not involve the disturbance of new land. Based on the current design of the proposed facility, the underground storage tanks (USTs) would be reutilized in place, if possible, after testing. The gas station would have six pump islands with a total of twelve hoses, and could service up to twelve vehicles at one time. Both the existing AAFES gas station and the shoppette and class six are in poor condition and have exceeded their useful life. Construction of new facilities would provide new efficiencies in servicing customers and energy consumed. Pavement and parking area would be increased as a result of this proposed facility and would result in more efficient servicing of customers. Furthermore, the bowling alley parking lot north of the proposed site would be expanded to accommodate more patrons. This EA evaluates the Proposed Action and the No-Action Alternative. Under the No-Action alternative, AAFES would not construct new collocated and central facilities for use by authorized patrons. Keesler would continue to use facilities that have exceeded their useful life. Resources considered in the EA include: topography, geology, water resources, noise, hazardous materials and wastes, infrastructure and utilities, biological resources, cultural resources, and socioeconomic resources. No significant impacts would result from implementation of the Proposed Action or the No-Action Alternative.		

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Environmental Assessment for the Proposed Construction of a Gas Station, Car-Care Center, Shoppette and Class Six, and Taco John's Restaurant at Keesler Air Force Base, Biloxi, Harrison County, Mississippi

Proposed Action: The Army and Air Force Exchange Service (AAFES) proposes to construct and operate a facility that would include a 13,300-square foot (1,236-square meter [m^2]) shoppette facility; a 8,950-square foot (832- m^2 ; four- to ten-bay) car-care center; a 2,370-square foot (220 m^2) Taco John's fast food restaurant; parking for 136 vehicles and would provide twelve multi-product automobile fuel dispensers. The proposed action would also include the expansion of the bowling alley parking area north of "G" Street.

Report Designation: Environmental Assessment.

Responsible Agency: United States Air Force.

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Abstract: AAFES, the contracting agency for the proposed project, would construct a consolidated facility including a gas station, car-care center, shoppette and class six, and fast food restaurant for use by authorized patrons at Keesler Air Force Base (AFB). These patrons would include primarily active-duty and retired military personnel, their family members, and certain categories of reserve military personnel. The new facilities would be collocated and centrally located on the base.

The preferred site (Alternative 2) for construction of the proposed action would involve the construction of the proposed facility in an area that is already dedicated to similar land uses. The proposed facility would be constructed on a site that is already developed and would not involve the disturbance of new land. Based on the current design of the proposed facility, the underground storage tanks (USTs) would be reutilized in place, if possible, after testing. The gas station would have six pump islands with a total of twelve hoses, and could service up to twelve vehicles at one time. Both the existing AAFES gas station and the shoppette and class six are in poor condition and have exceeded their useful life. Construction of new facilities would provide new efficiencies in servicing customers and energy consumed. Pavement and parking area would be increased as a result of this proposed facility and would result in more efficient servicing of customers. Furthermore, the bowling alley parking lot north of the proposed site would be expanded to accommodate more patrons.

This EA evaluates the Proposed Action and the No-Action Alternative. Under the No-Action alternative, AAFES would not construct new collocated and central facilities for use by authorized patrons. Keesler would continue to use facilities that have exceeded their useful life. Resources considered in the EA include: topography, geology, water resources, noise, hazardous materials and

wastes, infrastructure and utilities, biological resources, cultural resources, and socioeconomic resources. No significant impacts would result from implementation of the Proposed Action or the No-Action Alternative.

Table of Contents

<u>Section</u>	<u>Page</u>
Abstract.....	iii
List of Tables	ix
List of Illustrations.....	xi
List of Acronyms and Abbreviations	xiii
1 Purpose and Need for Action	1-1
1.1 Introduction	1-1
1.2 Description of the Proposed Action.....	1-1
1.3 Purpose and Need for the Proposed Action.....	1-1
1.4 Location of the Proposed Action.....	1-2
1.5 Decision to Be Made.....	1-2
1.6 Agency Coordination and Public Participation	1-4
1.7 Applicable Regulatory Requirements	1-4
1.8 Organization of the Document.....	1-4
2 Description of Alternatives and the Proposed Action.....	2-1
2.1 History of the Formulation of Alternatives	2-1
2.1.1 Alternative 1	2-1
2.1.2 Alternative 2	2-2
2.1.3 Alternative 3	2-2
2.1.4 Alternative 4	2-2
2.1.5 Alternative 5	2-5
2.1.6 Alternative 6	2-5
2.1.7 Site-Selection Criteria	2-5
2.2 Summary of Evaluation Criteria Table	2-6
2.3 Actions to be Evaluated Further in the EA.....	2-7
2.3.1 Description of the Preferred Alternative	2-7
2.3.2 Description of the “No-Action” Alternative	2-8
2.4 Comparison of Environmental Effects of the Preferred Alternative and the No-Action Alternative.....	2-8
3 Affected Environment.....	3-1
3.1 Installation Location, History, and Current Mission	3-1
3.1.1 Location.....	3-1
3.1.2 History.....	3-1
3.1.3 Current Mission.....	3-2
3.2 Description of the Affected Environment	3-2
3.2.1 Earth Resources.....	3-2

Table of Contents (continued)

<u>Section</u>		<u>Page</u>
3.2.2	Air Quality	3-4
3.2.3	Water Resources.....	3-5
3.2.4	Noise	3-6
3.2.5	Hazardous Materials and Wastes	3-6
3.2.6	Infrastructure and Utilities.....	3-10
3.2.7	Biological Resources	3-12
3.2.8	Cultural Resources.....	3-14
3.2.9	Socioeconomic Resources	3-14
4	Environmental Consequences.....	4-1
4.1	Change in Current Mission	4-1
4.2	Description of the Affected Environment	4-1
4.2.1	Earth Resources.....	4-1
4.2.2	Air Quality	4-2
4.2.3	Water Resources.....	4-3
4.2.4	Noise	4-4
4.2.5	Hazardous Materials and Wastes	4-4
4.2.6	Biological Resources	4-6
4.2.7	Infrastructure and Utilities.....	4-6
4.2.8	Cultural Resources.....	4-8
4.2.9	Socioeconomic Resources	4-8
4.2.10	Safety and Occupational Health.....	4-10
4.3	Unavoidable Adverse Environmental Effects.....	4-11
4.4	Relationship between Short-Term Uses of Environment and Long-Term Productivity	4-11
4.5	Irreversible and Irretrievable Commitments of Resources.....	4-11
4.6	Energy Requirements and Conservation Potential.....	4-12
4.7	Compatibility of the Proposed Action and Alternatives with the Objectives of Federal, Regional, State, and Local Land Use Plans, Policies, and Controls ...	4-12
4.7.1	Applicable Statutes and Regulations	4-12
4.7.2	Federal Regulatory Consistency Overview	4-13
4.7.3	State Regulatory Consistency Overview.....	4-15
5	Environmental Permits and Contractor Requirements for the Preferred Alternative	5-1
6	List of Preparers	6-1
7	Persons and Agencies Consulted.....	7-1
8	References.....	8-1
<u>Appendices</u>		
A	Agency Correspondence	A-1
B	Site Photographs	B-1
C	Land Use Control Implementation Plan	C-1

Table of Contents (continued)

<u>Section</u>	<u>Page</u>
D Waiver Request and Approval.....	D-1
E Human Health Risk Assessment Data and Summary Tables.....	E-1
F FONSI.....	F-1
G Affidavits, Proof of Publication.....	G-1

Table of Contents (continued)

<u>Section</u>	<u>Page</u>
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List of Tables

<u>Table</u>	<u>Page</u>
2-1 Evaluation of Alternatives Based on Siting Criteria, Keesler Air Force Base, Biloxi, Mississippi.....	2-6
2-2 Environmental Effects of the Preferred Alternative and the No-Action Alternative, Keesler Air Force Base, Biloxi, Mississippi	2-8
3-1 Soil Type Descriptions, Keesler Air Force Base, Biloxi, Mississippi.....	3-3
3-2 Federal and State Listed Species Potentially Occurring in Harrison County, Mississippi.....	3-13

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List of Illustrations

<u>Figure</u>		<u>Page</u>
1-1	Regional Location Map, Keesler AFB, Mississippi.....	1-3
2-1	Alternative Site Locations, Keesler AFB, Biloxi, Mississippi	2-3
2-2	Alternative Site 1, Keesler AFB.....	2-1
2-3	Alternative Site 2, Keesler AFB.....	2-2
2-4	Alternative Site 3, Keesler AFB.....	2-2
2-5	Alternative Site 4, Keesler AFB.....	2-2
2-6	Alternative Site 5, Keesler AFB.....	2-5
2-7	Site Plan, Keesler AFB, Biloxi, Mississippi.....	2-10
3-1	Distribution of Total BTEX Facility 1504 & AOC-A June 2001, Keesler AFB, Biloxi, Mississippi.....	3-9
3-2	Current Land Use, Keesler AFB, Biloxi, Mississippi.....	3-17

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List of Acronyms and Abbreviations

µg/kg	microgram per kilogram
AAFES	Army and Air Force Exchange Service
ACM	asbestos-containing material
AETC	Air Education Training Command
AFB	Air Force Base
AFI	Air Force Instruction
AOC	area of concern
AQCR	Air Quality Control Region
ARAR	applicable or relevant and appropriate requirements
ASTM	American Society for Testing and Materials
BMP	best management practice
BRA	Baseline Risk Assessment
BTEX	benzene, toluene, ethylbenzene, and xylene
BX	Base Exchange
C&D	construction and demolition
CAA	Clean Air Act
CE	Civil Engineering
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (1980)
CES	Civil Engineer Squadron
CFR	Code of Federal Regulations
CMS	Corrective Measures Study
CO	carbon monoxide
COC	contaminant of concern
CWA	Clean Water Act
CY	calendar year

List of Acronyms and Abbreviations (continued)

CZMA	Coastal Zone Management Act
DD/SB	Decision Document/Statement of Basis
DDC	density-driven convection
DoD	United States Department of Defense
DRMO	Defense Reutilization and Marketing Office
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement; also Engineering Installation Squadron
EPA	United States Environmental Protection Agency
ERPM	Environmental Restoration Program Manager
ESA	Endangered Species Act
Fam Camp	family camp
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FR	Federal Regulation
FY	fiscal year
gpm	gallons per minute
ha	hectare
HazWoper	Hazard Waste Operation and Emergency Responder
HHRA	Human Health Risk Assessment
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
INRMP	Integrated Natural Resources Management Plan
IRP	Installation Restoration Program
ISM	Interim/Stabilization Measure
kwh	kilowatt hours
lpm	liters per minute
LTM	long-term monitoring
LUC	land use controls
LUCAP	Land Use Control Action Plan
LUCIP	Land Use Control Implementation Plan
m	meter
m ²	square meters
MCMP	Mississippi Coastal Management Program
MDAH	Mississippi Department of Archives and History

List of Acronyms and Abbreviations (continued)

MDC	maximum detected concentrations
MDEQ	Mississippi Department of Environmental Quality
MFH	military family housing
mg/L	milligrams per liter
mgd	million gallons per day
mld	million liters per day
MMBTU	million British Thermal Units
MNHP	Mississippi Natural Heritage Program
MOA	memorandum of agreement
MPDS	multi-product automobile fuel dispensers
MSL	mean sea level
MSW	municipal solid waste
MTBE	methyl tertiary butyl ether
MWR	Morale, Welfare, and Recreation
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFA	no further action
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO ₂	nitrogen dioxide
NOA	Notice of Availability
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Act
Pb	lead
PM ₁₀	particulate matter (10 microns or less)
POL	petroleum, oil, and lubricant
RBC	risk-based concentration
RCRA	Resource Conservation and Recovery Act
RFI	Resource Conservation and Recovery Act (RCRA) Field Investigation
RGO	remedial goal option
SHPO	State Historic Preservation Officer
SO ₂	sulfur dioxide
SO _x	sulfur oxides

List of Acronyms and Abbreviations (continued)

SPCC	spill prevention, control, and countermeasure
STP	sewage treatment plant
SWMU	solid waste management unit
TEL	tetraethyl lead
TPH	total petroleum hydrocarbon
TRW	Training Wing
TSP	total suspended particulates
USACE	United States Army Corps of Engineers
USAF	United States Air Force
U.S.C.	United States Code
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
VOC	volatile organic compound
WG	Wing
WWII	World War II
WWTP	wastewater treatment plant

1 Purpose and Need for the Proposed Action

1.1 Introduction

This Environmental Assessment (EA) identifies, describes, and evaluates the potential impacts to the environment due to the proposed construction of a commercial building that would consolidate multiple businesses in one location at Keesler Air Force Base (Keesler AFB; also referred to herein as “the base” or the “installation”), Harrison County, Mississippi. This report also identifies required environmental permits relevant to the proposed action and identifies any actions that could be taken to minimize environmental impacts.

This document was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969; the Council on Environmental Quality (CEQ) regulations implementing NEPA (Title 40 of the United States Code of Federal Regulations [CFR], Parts 1500-1508); and the guidelines for the Department of the Air Force Environmental Impact Analysis Process (EIAP; Air Force Instruction [AFI] 32-7061) as promulgated by 32 CFR 989.

1.2 Description of the Proposed Action

The Army and Air Force Exchange Service (AAFES), the contracting agency for the project, proposes to construct a collocated gas station, car-care center, shoppette and class six, and fast food restaurant for use by authorized patrons at Keesler AFB. The action also includes increasing the size of a parking lot at the bowling alley adjacent to the proposed facility.

1.3 Purpose and Need for the Proposed Action

The need is to provide a consolidated, centrally located, shopping, restaurant, car-care, and gas station facility on Keesler AFB so that customers can conveniently obtain several types of services without having to go off base or make more than one stop on base. The facility should be

located on a parcel large enough to accommodate the consolidated businesses and within an area of the base able to safely handle the proposed increase in vehicular and truck traffic.

Construction of a new shoppette facility would increase the size and improve the condition of the current facility, as well as increase the value to potential customers. A new gas station facility would improve upon the current dilapidated facility while also increasing the ability to provide services to customers. Currently, food services on the base are limited, and a new facility would provide an additional food service alternative for base personnel.

AAFES has identified the construction of the facility as a way to enhance the living conditions and improve the morale and welfare of military personnel and their families at Keesler AFB. High morale and welfare tend to correlate with longer commitments by United States Air Force (USAF) personnel, which would enhance Keesler AFB's long-term productivity by reducing the rate of personnel turnover and training costs for new members. In addition, some of the profits generated from the facility would be distributed to the installation for their Morale, Welfare, and Recreation (MWR) services.

1.4 Location of the Proposed Action

Keesler AFB is located in Harrison County, Mississippi, within the boundaries of the City of Biloxi (Figure 1-1). The base is located on a barrier island bounded by the Back Bay of Biloxi to the north and the Gulf of Mexico to the south. U.S. Highway 90 parallels the southern boundary of the base and provides access to Interstate 10 via U.S. Highways 49 and 110. The base occupies approximately 1,678 acres (679 hectares [ha]) of land (Keesler INRMP 2001).

1.5 Decision to Be Made

The USAF must decide, based on the EA, whether a finding of no significant impact (FONSI) is applicable or whether the preparation of an Environmental Impact Statement (EIS) is required. Under NEPA, federal agencies are required to consider the environmental consequences of proposed actions during the decision-making process. The intent of NEPA is to protect, restore, or enhance the environment through well-informed federal decisions. The CEQ was established under NEPA to implement and oversee federal policy in this process, and in 1978, CEQ issued regulations implementing the process (Title 40 CFR, Parts 1500-1508). The CEQ regulations require an EA to:

- Briefly provide evidence and analysis to determine whether the proposed action might have significant effects that would require preparation of an EIS. If the analysis determines that the environmental effects would not be significant, a FONSI will be prepared; and

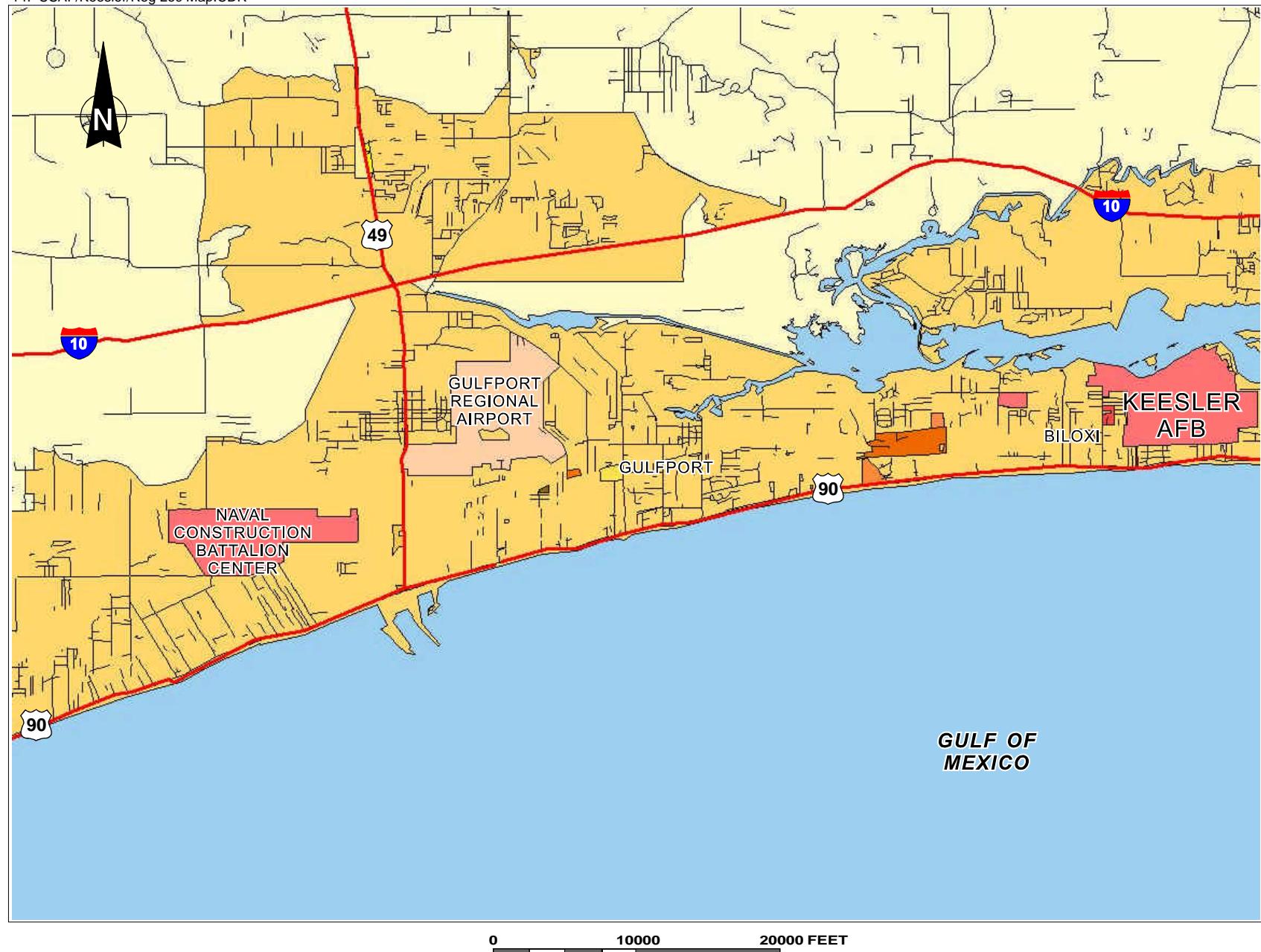


Figure 1-1 REGIONAL LOCATION MAP -- KEESLER AIR FORCE BASE
BILOXI, MISSISSIPPI

- Facilitate the preparation of an EIS, when required.

1.6 Agency Coordination and Public Participation

In accordance with the NEPA of 1969, Air Force Policy Directive 32-70, and AFI 32-7061, the draft EA and FONSI were made available for agency and public review during a 30-day period prior to initiation of the proposed action. Because the preferred alternative is located over a contaminated site, Interagency and Intergovernmental Coordination for Environmental Planning (IICEP) review is required prior to the distribution of the document to the public. As required, IICEP letters and draft copies of the EA were distributed on June 5, 2002, to the Mississippi Natural Heritage Program (MNHP), Mississippi Department of Environmental Quality (MDEQ), Mississippi Department of Archives and History (MDAH), and the Mississippi Department of Marine Resources and to federal agencies including the United States Army Corps of Engineers (USACE), Federal Emergency Management Agency (FEMA), and the Office of Federal Grants. The draft EA and FONSI were distributed to the appropriate state government agencies through the Mississippi State Clearinghouse.

1.7 Applicable Regulatory Requirements

Refer to Section 5, Table 5-1 for a list of the environmental permits, compliance requirements and approvals necessary for the proposed action. Contractor specifications are also included in bulleted form.

1.8 Organization of the Document

The first four sections of this EA establish the existing conditions at Keesler AFB. Section 1 provides a general overview of the purposes for preparing the EA. Section 1 also describes the proposed action, and explains the purpose and need for the proposed action. Section 2 describes the methods used to identify the alternatives and describes the alternative that best meets the siting criteria. Section 3 establishes the environmental setting at Keesler AFB by describing the physical, biological, socioeconomic, and the cultural and archaeological resources on the base. The characteristics described include, but are not limited to, groundwater, wetlands and other surface waters, vegetation, threatened and endangered species, utility infrastructure, air quality, hazardous waste, land use, and transportation. Section 4 discusses the environmental consequences of the no-action and the proposed action on the preferred site alternative.

The remaining sections of this EA include a description of the necessary environmental permits and contractor requirements; a list of persons who prepared this document; the agency personnel who were consulted; and the references used to develop this EA. Appendix A provides copies of correspondence to agencies, Appendix B provides photographs of site locations, Appendix C contains the Land Use Control Implementation Plan (LUCIP), Appendix D contains the waiver request and approval from the Air Education Training Command (AETC), Appendix E contains data and summary tables from the Human Health Risk Assessment (HHRA) for Keesler AFB (USAF 1999a), and Appendix F contains the FONSI, and Appendix G contains affidavits confirming publication of the notice of availability (NOA) for the draft EA and the FONSI.

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Description of Alternatives and the Proposed Action

This section identifies the proposed siting alternatives and compares them to evaluation criteria to determine the most acceptable siting location. Then the preferred siting alternative and the no-action alternative are described in detail.

2.1 History of the Formulation of Alternatives

Keesler AFB is densely developed and has few remaining vacant parcels large enough to accommodate the proposed facility. Proposed sites were identified according to the size of the parcel and the ability of the site to meet the requirements of the purpose and need. Keesler AFB planners and AAFES staff identified the following five alternatives (Figure 2-1) as potentially suitable for the development of the proposed action, as well as a sixth alternative, the no-action alternative. Additional photographs of alternative sites are provided in Appendix B.

2.1.1 Alternative 1



FIGURE 2-2: ALTERNATIVE SITE 1, KEESLER AFB.
View from northeast corner of site looking southwest toward existing dormitory facilities.

The proposed site is approximately 4.3 acres (1.7 ha). The existing land use for this site is community services and open space (see Figure 2-2, also Section 3, Figure 3-2). The site is undeveloped and primarily consists of maintained grass with a few scattered trees. Streets bordering the proposed site include Gen. Chappie James Avenue to the north; “L” Street to the south, Larcher Boulevard to the east, and “Q” Street to the west.

2.1.2 Alternative 2

The proposed site is approximately 4.4 acres (1.8 ha). The existing land use for this site is community commercial (see Figure 2-3, also Section 3, Figure 3-2). The site is developed and currently houses the AAFES gas station. Vegetation on the site includes landscaping common with development, including a few trees and grassy areas, but is mostly paved. The western portion of the site contains parking for the bank. Streets bordering the proposed site include “G” Street to the north, Meadows Drive to the south, Larcher Boulevard to the east, and Third Street to the west.



**FIGURE 2-3: ALTERNATIVE SITE 2, KEESLER AFB.
View looking north across
Meadows Drive toward existing gas station facility.**



**FIGURE 2-4: ALTERNATIVE SITE 3, KEESLER AFB.
View from East Street looking southwest toward the
rear of existing shoppette and class six facility.**

2.1.3 Alternative 3

The proposed site is approximately 5.1 acres (2.1 ha). The existing land use for this site is community commercial (see Figure 2-4, also Section 3, Figure 3-2). The site is currently the home of the existing Keesler AFB shoppette facility and class six. Although the parcel is developed, a large portion of the site remains undeveloped. Vegetation on this site consists of maintained grass with a few trees. Streets bordering the proposed site include “G” Street to the north, Meadows Drive to the south, Second Street to the east, and Third Street to the west.



**FIGURE 2-5: ALTERNATIVE SITE 4, KEESLER AFB.
View from “I” Street looking north toward base housing.**

2.1.4 Alternative 4

The proposed site is approximately 2.7 acres (1.1 ha). The existing land use for this site is medical (see Figure 2-5, also Section 3, Figures 3-2). The site is currently undeveloped and is located on the base just west of the current Fisher House facility.

Vegetation on this site consists of scattered pine trees. Streets bordering the proposed site include “J” Street to the north, “I” Street to the south, Third Street to the east, and Second Street to the west.

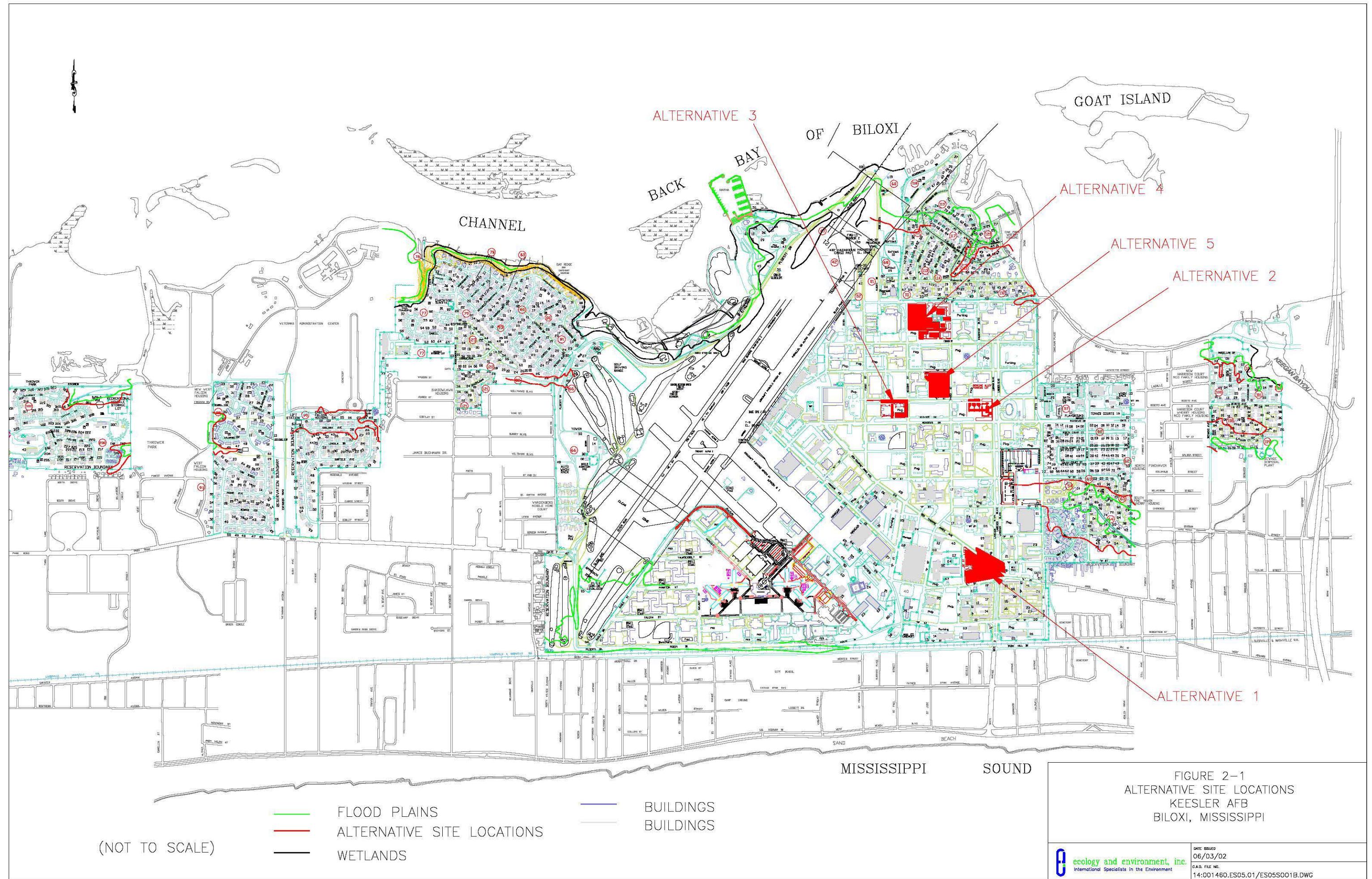




FIGURE 2-6: ALTERNATIVE SITE 5, KEESLER AFB.
View from southeast corner looking northwest toward the administrative facility.

2.1.5 Alternative 5

The proposed site is approximately 3.2 acres (1.3 ha). The existing land use for the site is administrative (see Figure 2-6, also Section 3, Figure 3-2). The site is currently undeveloped. Vegetation on this site consists of scattered pine trees. Streets bordering the proposed site include “H” Street to the north, “G” Street to the south, Third Street to the east, and Second Street to the west.

2.1.6 Alternative 6

No new construction would be required under Alternative 6, the no-action alternative and would not result in the consolidation and collocation of services.

2.1.7 Site-Selection Criteria

The following general site-selection criteria were used to screen each potential site and identify reasonable alternatives (see Table 2-1). These criteria were developed based upon the purpose and need and other land use and environmental factors important in siting this facility.

- Convenience to AAFES customers;
- High visibility to potential customers;
- Safe vehicular access and minimal impacts on existing traffic flow in the area;
- Compatibility with land-use designations and surrounding visual character;
- Adequate space to accommodate the intended uses;
- Compatibility with current and future planned projects; and
- Minimization of adverse impacts to natural resources.

Table 2-1							
Alternative (#)	Purpose and Need Criteria				Land Use and Environmental Criteria		
	Convenience	Visibility	Safety	Space	Land Use	Other Projects	Natural Resources
1	✓	✓	✓	✓			✓
2	✓	✓	✓	✓	✓ ^a	✓	✓
3			✓	✓	✓		✓
4				✓			
5	✓		✓	✓			

Notes:

✓ denotes that the alternative meets the site requirement.

^a Land use is compatible, however, a Memorandum of Agreement (MOA) exists with the United States Environmental Protection Agency (EPA) to establish land use controls on site (addressed later in this document).

2.2 Summary of Evaluation Criteria Table

After the evaluation of each siting alternative against the site-selection criteria, Alternatives 1, 3, 4, and 5 do not meet all the proposed site evaluation criteria and will not be considered in subsequent sections of this analysis. Only Alternative 2 meets all the purpose and need criteria and all the proposed environmental and land-use criteria. Therefore, only Alternative 2 and the no-action alternative will be considered further in the remaining sections of this document. Following is a brief description of the results of the comparison of each alternative to the site-selection criteria.

Alternative 1 meets all the purpose and need criteria, but does not meet all the land-use and environmental criteria for the siting of the proposed facility. The existing land use at this site is community services and open space and would not be compatible with the construction of commercial facilities (see Section 3, Figure 3-2). Because of the community services land-use designation and the proximity to existing dormitory facilities, the base has reserved this parcel of property for the future construction of additional permanent dormitory facilities. Construction of permanent dormitory facilities would assist in reducing the existing deficit in permanent dormitory facilities on Keesler AFB. Therefore, Alternative 1 will not be evaluated further in this EA.

Alternative 2 is the only alternative that meets all the purpose and need criteria and all the land use and environmental criteria for the siting of the proposed facility. This alternative is discussed in detail in subsequent sections.

Alternative 3 meets only a few of the purpose and need criteria, and land-use and environmental criteria. The proposed site would be located at the end of Meadows Drive away from the major traffic flow of the base and, therefore, would not be as accessible or visible to base personnel. Future plans indicate that the existing shoppette facility and class six is proposed to house the thrift shop. Currently, the thrift shop is located within a World War II (WWII) facility that is in poor condition and in a poor location. Therefore, Alternative 3 will not be evaluated further in this EA.

Alternative 4 meets one of the purpose and need criteria, and land use and environmental criteria. The existing land use at this site is medical and would not be compatible with the construction of this type of facility (see Section 3, Figure 3-2). The site is surrounded by other medical and community-type facilities, including the child development center and youth center. The site would be located in an area away from the major traffic flow of the base and, therefore, would not be as accessible or visible to base personnel. Because of the limited access to the site, increased traffic congestion would result on this portion of the base and could result in safety concerns. Furthermore, the presence of tanker trucks in this portion of the base would also likely result in safety concerns. Future plans have this site reserved as the location of the second Fisher House (fiscal year 2003 [FY03]) and new medical warehouse (FY02). Therefore, Alternative 4 will not be evaluated further in this EA.

Alternative 5 meets only a few of the purpose and need criteria, and none of the land use and environmental criteria. The existing land use at this site is administrative and would not be compatible with the construction of this type of facility (see Section 3, Figure 3-2). The site is surrounded by training and administrative-type facilities, including the communication squadrons. Although centrally located on the base, the site is not bordered by any major roadways. Because of this, the site in Alternative 5 is not as visible or accessible as some of the other proposed sites. Future plans have this site reserved as the location of a training facility. Therefore, Alternative 5 will not be evaluated further in this EA.

2.3 Actions to be Evaluated Further in the EA

2.3.1 Description of the Preferred Alternative

The proposed action evaluated in this EA is to construct the AAFES facility on the preferred site (Alternative 2) as determined in Section 2.2 (see Table 2-1). The AAFES, the contracting agency for the project, proposes to construct a facility that will include a 13,300 square foot (1,236 square meter [m^2]) shoppette facility; a 8,950 square foot (832 m^2 ; four- to ten-bay) car-care center; a 2,370

square foot (220 m²) Taco John's fast food restaurant; parking for 136 vehicles and will provide twelve multi-product automobile fuel dispensers (MPDS; Figure 2-7). The proposed action also would include the expansion of the bowling alley parking area north of "G" Street (Figure 2-7).

2.3.2 Description of the "No Action" Alternative

The CEQ regulations implementing NEPA require that a "no-action" alternative be evaluated. Under this alternative, AAFES would not construct the new shoppette, car-care center, and fast food facility at Keesler AFB. This would result in inadequate services for authorized personnel and would result in the continued operation of services within outdated facilities that have exceeded their useful life. Furthermore, a fast food restaurant would not be constructed, limiting the availability of food service on the installation and additional revenues would not be generated for Keesler AFB. No direct environmental effects would result from implementation of the no-action alternative, but this alternative would not meet the identified purpose and need.

2.4 Comparison of Environmental Effects of the Preferred Alternative and the No-Action Alternative

Based on the site selection criteria, only one reasonable site alternative (Alternative 2) was identified. Table 2-2 illustrates the environmental effects associated with this alternative and with the no-action alternative.

Table 2-2

Environmental Effects of the Preferred Alternative and the No-Action Alternative Keesler Air Force Base, Biloxi, Mississippi

Resource	Preferred Alternative (Alternative 2)	No Action (Alternative 6)
Geology	No impact	No impact
Air Quality	Minor short term negative impact due to land disturbance during construction.	No impact
Water Resources	Increase of impervious surfaces.	No impact
Noise	Minor short-term negative impact associated with construction equipment; long-term negative impact associated with increase vehicular traffic.	No impact
Hazardous Materials and Wastes	Slight increase in hazardous waste generation due to the increase in the size of the facility and the number of customers serviced.	No impact
Infrastructure and Utilities	Minor long-term negative impact increasing overall base energy requirements; slight positive impact by reducing overall vehicular trips on and off base.	No impact

Table 2-2**Environmental Effects of the Preferred Alternative and the No-Action Alternative
Keesler Air Force Base, Biloxi, Mississippi**

Resource	Preferred Alternative (Alternative 2)	No Action (Alternative 6)
Vegetation	Minor negative impact due to land disturbance during construction.	No impact
Wildlife	No impact.	No impact
Threatened and Endangered/Rare Species	No impact.	No impact
Cultural Resources	No impact.	No impact
Land Use	Long-term positive impact due to the construction of a new and improved facility on a site with existing LUCs.	No impact
Visual Quality	Long-term positive impact increasing the aesthetic qualities of a dilapidated facility.	No impact
Economy/ Employment	Slight positive impact by providing a few new jobs and providing revenue to the MWR program.	No impact
Environmental Justice	No impact	No impact
Housing	No impact	No impact
Recreation	Long-term slight positive impact by increasing revenues for the Keesler AFB MWR program.	No impact
Occupational Safety and Health Administration	No impact	No impact

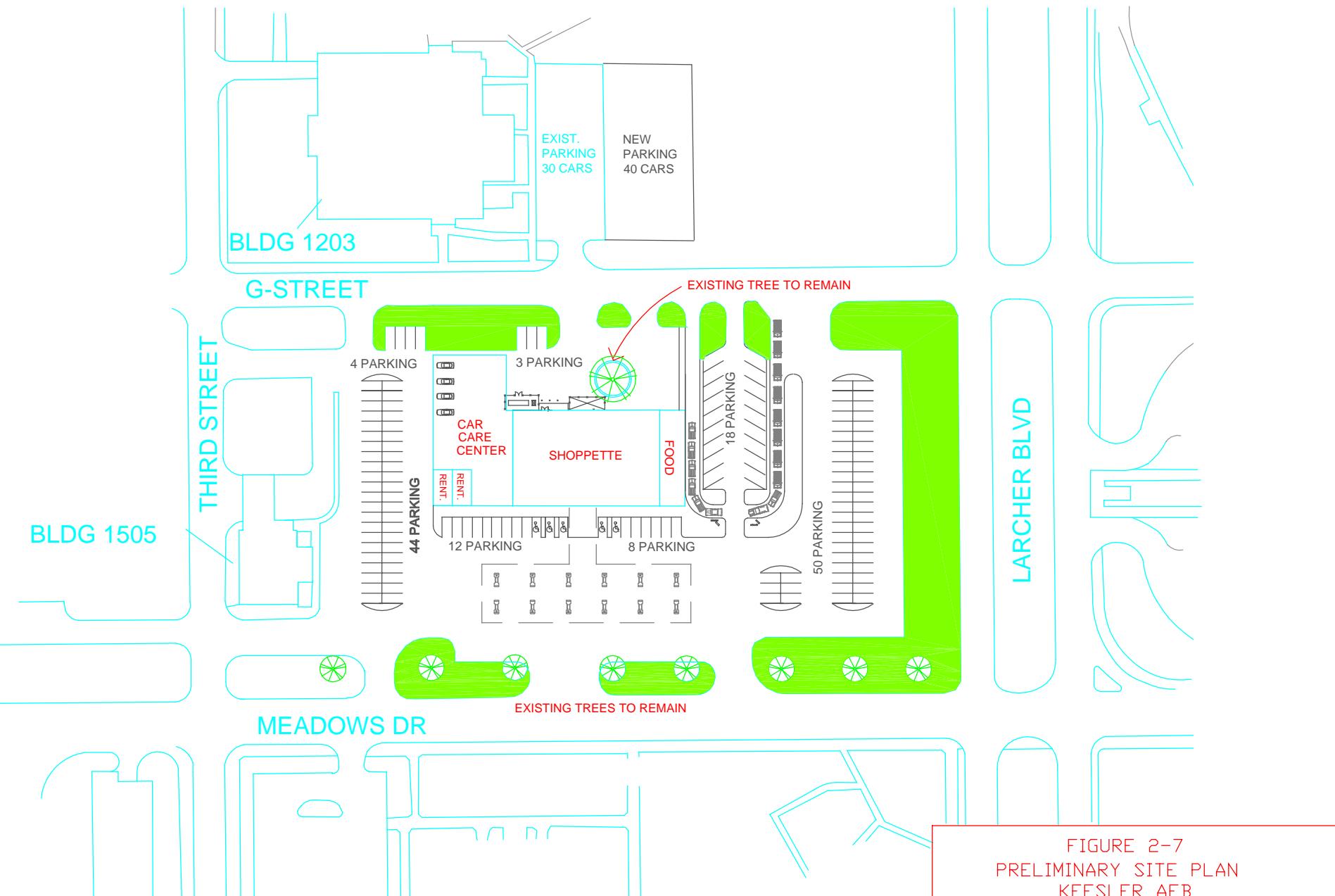


FIGURE 2-7
PRELIMINARY SITE PLAN
KEESLER AFB
BILOXI, MISSISSIPPI

SOURCE : SITE PLAN SCENARIO D' , AAFES HQ , 2002



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This section describes the physical, biological, cultural, and socioeconomic resources at Keesler AFB that potentially could be affected by implementing the proposed action.

3.1 Installation Location, History, and Current Mission

3.1.1 Location

Keesler AFB is located in Harrison County, Mississippi, within the boundaries of the City of Biloxi (Figure 1-1). The base is located on a barrier island bordered by the Back Bay of Biloxi to the north and the Gulf of Mexico to the south. U.S. Highway 90 parallels the southern boundary of the base and provides access to Interstate 10 via U.S. Highways 49 and 110. The base occupies approximately 1,678 acres (679 ha) of land (Parsons 2001).

3.1.2 History

Keesler AFB was activated in June 1941 as a training center for aircraft mechanics. Prior to occupation by the USAF, a small public airfield occupied the area. After WWII, Keesler AFB was designated as a permanent military base. Electronics, communications, personnel, and pilot training programs were added later to the existing training programs. In 1947, the radar training school was transferred to Keesler AFB from Boca Raton, Florida. Communications and control courses were transferred to the base from Scott AFB, Illinois, in 1958. Personnel and administrative career training were transferred from Amarillo AFB, Texas, to Keesler AFB in 1968. In 1967, the USAF Pilot Training School was activated at the base. The training program used T-28 aircraft and operated from 1967 until 1973.

3.1.3 Current Mission

The current mission of Keesler AFB focuses on four main areas: technical training and flying operations, medical care, logistics, and support. The 81st Training Wing (TRW) consists of the headquarters and related staff, as well as four training groups: the 81st Training Group; 81st Medical Group; the 81st Logistics Group; and the 81st Support Group. The 81st Training Group, consists of eight technical and training squadrons and is responsible for technical and flying training at Keesler AFB. The 81st Medical Group, consisting of six squadrons, operates a large multi-specialty hospital and clinics. The 81st Logistics Group, consisting of five squadrons, provides support to the 81st TRW in terms of electronic training systems, contracting, supply, and transportation. The 81st Support Group consists of five squadrons that support the people who use the base facilities, by providing engineering, communication, security, and essential services. In addition to the 81st TRW units, Keesler AFB is home to a variety of other organizations. Major tenant units are the Second Air Force, the 403 Wing (WG), and the 738th Engineering Installation Squadron (EIS).

3.2 Description of the Affected Environment

The following subsections describe the environmental conditions of Keesler AFB. The proposed gas station, car-care center, shoppette and class six, and fast food restaurant, along with the proposed expansion of the bowling alley parking lot, would be sited within an existing developed area on the base. The proposed sites contain no natural resources except for some large live oak trees and landscaping vegetation.

3.2.1 Earth Resources

Topography

Keesler AFB is located within the Coastal Meadows (Flatwoods) topographical division of the Gulf Coast Region. The Coastal Meadows are generally flat to slightly elevated. The base is located on a narrow peninsula bounded by the Back Bay of Biloxi to the north and the Mississippi Sound, part of the Gulf of Mexico, to the south. Elevations on the base range from sea level in the marshes along the Back Bay of Biloxi shoreline to 32.5 feet (9.9 meters) above mean sea level (MSL) near the southwest portion of the base. Local relief is primarily the result of past depositional and more recent erosional processes. Relief is generally low for much of the base and is most notable near the Naval Reserve area, where land surface gently grades toward the Back Bay of Biloxi.

Soils

Soils identified within the area of the Biloxi Peninsula occupied by Keesler AFB include Eustis, Eustis-Poarch, Handsboro, Harleston, Lakeland, Ponzer-Smithton, Plummer, and Sulfaquepts. Overall, the Eustis and Harleston are the dominant soils with the exception of base coastal marsh areas where Handsboro and Eustis-Poarch are the dominant soil types. The other four soil types have a limited areal extent. Additional soil information may be obtained from the *Harrison County Soil Survey, Mississippi* (United States Department of Agriculture [USDA] 1975). Earlier soil analysis conducted at the preferred site location concluded that the soils at the preferred site are contaminated with total petroleum hydrocarbon (TPH). Additional information on contaminated soils and human health concerns associated with contaminated soils are addressed in Section 3.2.5.

Table 3-1					
Soil Type Descriptions, Keesler Air Force Base, Biloxi, Mississippi					
Soil Name	Percent Slope	Erosion Potential	Texture/ Description	Typical Vegetative Cover Supported (Overstory/ Understory)	Drainage Description
Eustis Loamy Sand	0 to 5	Slight	Sandy	Pine, hardwood/ lawn grasses, ornamental shrubs	Little to no runoff; well drained
Eustis and Poarch soils	8 to 17	Moderate	Sandy	Pine, hardwood/ galberry, waxmyrtle, and titia	Well drained surface; medium internal drainage
Handsboro Association	0 to 2	Slight	Muck; consists of decomposed organic soil on broad, wet, grassy flats	Marsh grass	Very poorly drained; severe limitations for development
Harleston Fine, Sandy Loam	0 to 2	Slight	Sandy	Pine/lawn grasses, ornamental shrubs	Slow runoff; moderate internal drainage
Harleston Fine, Sandy Loam	2 to 5	Moderate	Sandy	Pine, hardwood/ lawn grasses, ornamental shrubs	Slow to medium runoff; moderately to well drained
Lakeland Fine Sand	0 to 5	Slight	Sandy	Pine, hardwood/ pasture plants, grasses, shrubs	Little or no surface runoff; well drained
Latonia Loamy Sand	0 to 5	Slight	Sandy	Pine/pasture plants, lawn grasses, ornamental shrubs	Well drained on low ridges; surface drainage is slow
Plummer Loamy Sand	0 to 2	Slight	Sandy; sandy surface layer is thick, loamy, and wet	Pine/pasture plants, lawn grasses	Slow to very slow surface drainage; internally well drained

Soil Type Descriptions, Keesler Air Force Base, Biloxi, Mississippi					
Soil Name	Percent Slope	Erosion Potential	Texture/ Description	Typical Vegetative Cover Supported (Overstory/ Understory)	Drainage Description
Ponzer and Smithton soils	0 to 2	Slight	Sandy loam	Hardwood, scattered slash and loblolly pines; sweetbay, magnolia/ red maple, star bush, titia	Surface and internal drainage are poor; soils are subject to flooding and are covered with water for long periods
Sulfaquepts	0 (along marshes and beaches)	Slight	Variable, ranging from sand to silty clay and clay	Capable of growing only a few plants, suited for lawns	Well drained, both surface and internally

Source: Parsons 2001.

Key:

Percent Slope = Steepness of an incline, or grade; the ratio between the vertical rise (or fall) and the horizontal distance in which the rise (or fall) occurs.

0% = Flat to gently sloping.

20% = Moderately steep.

40% = Very steep.

Erosion Potential = Risk of erosion. Length and steepness of slope, texture, and permeability are among soil characteristics considered.

Slight = Erosion not a problem.

Moderate = Management is needed to prevent erosion in cleared areas.

Severe = Extensive management is needed to control erosion.

3.2.2 Air Quality

Under the Clean Air Act (CAA), the United States Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) that limit the concentration levels of pollutants allowed to occur in ambient air (generally defined as the outdoor atmosphere nearest to ground level). Six criteria pollutants were established: ozone (O_3 ; smog), lead (Pb), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur oxides (SO_x , measured as sulfur dioxide [SO_2]), and particulate matter (of 10 microns or less; PM_{10} ; soot). O_3 does not occur directly from any source, but results from a series of reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOCs) in sunlight.

All areas within the state are designated with respect to each of these six criteria pollutants as in “attainment” (in compliance with the standards) or “non-attainment” (not in compliance with the standards), or “unclassifiable” (insufficient data to classify). Currently, Keesler AFB is located in Harrison County within the Mobile -Pensacola -Panama City-Southern Mississippi Interstate Air Quality Control Region (AQCR) 5. The AQCR covers a three-state region and includes the Alabama counties of Baldwin, Escambia, and Mobile; the Florida counties of Bay, Calhoun, Escambia, Gulf,

Holmes, Jackson, Okaloosa, Santa Rosa, Walton, and Washington; and the Mississippi counties of Adams, Amite, Clairborne, Clarke, Copiah, Covington, Forrest, Franklin, George, Green, Hancock, Harrison, Hinds, Jackson, Jasper, Jefferson, Jefferson Davis, Jones, Lamar, Lauderdale, Lawrence, Lincoln, Madison, Marion, Newton, Pearl River, Perry, Pike, Rankin, Scott, Simpson, Smith, Stone, Walthall, Warren, Wayne, and Wilkinson. The entire state of Mississippi is considered to be in attainment for five of the six federal criteria pollutants (James 2002). NO₂ is not monitored in Mississippi, so the state remains unclassified for this pollutant (James 2002).

3.2.3 Water Resources

Groundwater

Groundwater serves as the principal source of drinking water at Keesler AFB and for the city of Biloxi. Within the Gulfport-Biloxi-Ocean Springs coastal area, municipalities, industries, and Keesler AFB are the heaviest users of groundwater, which is obtained primarily from deep wells in the Miocene aquifer system. In the Biloxi area, large sandy aquifers located at depths of 600 feet (183 meters), 800 feet (244 meters), and 1,200 feet (366 meters) are the most extensively used (Parsons 2001).

Surface Water and Drainage

The surface water hydrology at Keesler AFB consists of several units. The stormwater sewer system dominates the surface water hydrology in the interior of the base. Two small manmade lakes exist on the golf course. The Back Bay of Biloxi and its coastal marshes, which are considered to be environmentally sensitive areas, provide the northern boundary for the base. The base was issued a National Pollutant Discharge Elimination System (NPDES) permit (No. MSR001362) from the MDEQ on June 4, 1999, to operate its stormwater collection, treatment, and disposal system (Parsons 2001).

The Keesler AFB stormwater system consists of open ditches, swales, culverts, and reinforced concrete piping. The majority of the stormwater drainage from the base flows north to the Back Bay of Biloxi. A system of oil-water separators is used to treat stormwater prior to discharge to the Back Bay of Biloxi. Drainage from a portion of the base flows south through the City of Biloxi's storm drainage system to the Mississippi Sound. Surface drainage on Keesler AFB is divided into 29 drainage areas. Of the 29 surface drainage areas, six are associated with industrial type activities and the remaining drainage areas are associated with small residential and commercial development (Parsons 2001). Most of the system adequately supports the rainfall received at the base. However, during heavy periods of rainfall some of the drainage systems become overloaded contributing to

flooding in the vicinity of the site. The majority of the proposed site is impervious surface. Drainage at the site is achieved through a series of storm drains that direct runoff to the Back Bay of Biloxi. (Kinman 2002)

Wetlands

The Mobile District USACE conducted a wetlands survey on Keesler AFB in 1991. Based on this delineation, the base contains 22 acres (8.9 ha) of jurisdictional wetlands located along the Back Bay of Biloxi. Coastal wetlands and salt marsh exist in the northwest portion of the base along the shore of the Back Bay (Figure 2-1). These marshes are dominated by black needlerush (*Juncus roemerianus*) and smooth cordgrass (*Spartina alterniflora*). The base is currently updating the wetland delineation for Keesler AFB (Kinman 2002). No wetlands are located on or in the vicinity of the proposed action site.

Floodplains

Executive Order 11988, Floodplain Management, requires federal agencies to evaluate the effect of their actions on floodplains. Flooding is a concern near Keesler AFB, and parts of the installation fall within the 100-year floodplain (Figure 2-1). Major portions of the South Pine Haven, Oak Park, and Harrison Court housing areas lie within the 500-year floodplain (Figure 2-1). The proposed site for the new facility is not located within the 100-year or 500-year floodplain.

The base's proximity to the Gulf Coast increases the potential occurrence of tropical storms and hurricanes. Tropical storms and hurricanes not only produce torrential rainfall, but tidal surges that cause flooding. The USACE has predicted storm-induced flood tides of 12.5 feet (3.8 meters) above MSL every 100 years and 6 feet (1.8 meters) above MSL every ten years for the Keesler AFB area (Parsons 2001).

3.2.4 Noise

Noise at Keesler AFB is characteristic of the noise associated with flight operations at most USAF installations and civilian airports. During periods of no aircraft activity at Keesler AFB, noise associated with base activities results primarily from aircraft maintenance and shop operations, ground traffic movement, occasional construction, and similar sources.

3.2.5 Hazardous Materials and Wastes

Keesler AFB is registered as a municipal large-quantity generator of hazardous wastes. In calendar year 2001 (CY01), Keesler AFB disposed of approximately 6,515 pounds (2,464 kilograms

[kg]) of hazardous waste (Daniel 2002 [e-mail]). Keesler AFB has a Part B Resource Conservation and Recovery Act (RCRA) permit for storage and handling of wastes (Parsons 2001).

Hazardous wastes generated at Keesler AFB include spent solvents, thinners, strippers, paint waste, laboratory chemicals, and unused materials considered as waste or products containing hazardous materials that have exceeded their shelf life. Hazardous wastes such as used tires, oil, and other automobile byproducts are produced at the existing gas station and car-care facility. In CY01, the Keesler AFB AAFES facility produced approximately 600 pounds (227 kg) of hazardous waste (Shelton 2002). Other hazardous wastes generated at Keesler AFB include turbine oil, hydraulic fluid, antifreeze, batteries, and florescent lights. All hazardous wastes generated on base are transported to an off-base facility for recycling (Parsons 2001). There are two 90 storage sites on base (Buildings 4304, 0468) and approximately 28 satellite accumulation points on base (James 2002). Hazardous wastes are transported to the one-year permitted facility at Defense Reutilization and Marketing Office (DRMO) facility (Building 4420; James 2002).

Asbestos and Lead-Based Paint

Base-wide surveys have been completed for asbestos and lead paint in accordance with USAF policy. The asbestos survey was completed in CY93 and identified friable and non-friable asbestos-containing material (ACM) in the majority of the buildings built prior to 1980. Surveys completed on AAFES Building 1504 concluded that asbestos exists in the floor tiles and the roof, ductwork, ceiling in the garage area, and the exterior of the building (Biondo 2002). A lead paint base-wide survey of buildings completed in CY93 included all the military family housing (MFH) areas and priority buildings on base. The results of the survey indicated that lead-based paint was widely used on buildings built prior to 1980. It is anticipated that lead paint exists within the existing gas station and car-care facility (Kinman 2002).

ST-6 (AOC-A)

Site ST-6 (AOC A) contains the Base Exchange (BX) Service Station and includes gasoline service bays and pump islands. Two investigations are underway at this site. One is being addressed as part of the Installation Restoration Program (IRP) with Land Use Controls (LUCs) in place, while the other is a compliance site cleanup activity currently under investigation with MDEQ. The separation of investigation is a funding issue one of the sites is eligible for the IRP program (prior to 1984) while the other is a compliance site with contamination occurring after 1984. The two sites have commingled hydrocarbon plumes. In 1987, ten abandoned USTs that were used to store automotive gasoline were removed. Six of the tanks were located along the eastern side of AAFES

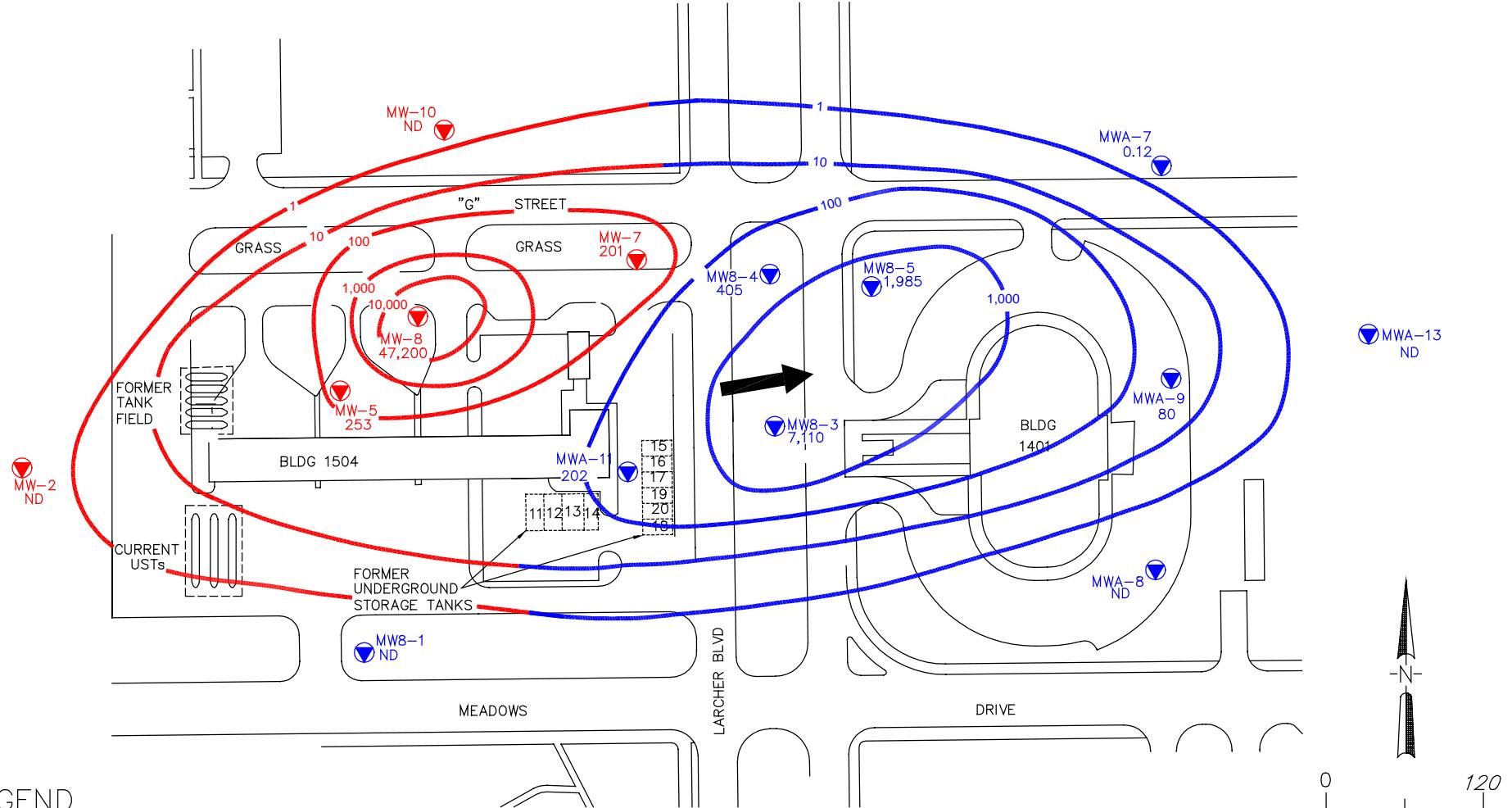
Building 1504, and four were located just south of the building. In 1995, five USTs were removed and the three current USTs were installed at the western part of Building 1504.

As part of the RCRA Facility Investigation (RFI), soil samples were collected and analyzed for TPH and inorganic extraction procedure toxicity. Benzene, toluene, ethylbenzene, and xylene (BTEX) concentrations were observed in soil and groundwater samples collected during excavation activities. Soil remediation consists of natural biodegradation processes. For groundwater, the selected remedial alternative consists of natural attenuation and long-term monitoring with LUCs). Long-term monitoring of groundwater has been conducted annually since 1998. Nine wells are being sampled annually and an additional five wells at adjacent AAFES Facility 1504 are being sampled concurrently with the wells at ST-6 (AOC A). Figure 3-1 illustrates the range of samples of BTEX and methyl tertiary butyl ether (MTBE) discovered on Site 1504 and ST-6 (AOC A).

Human Health Risk Assessment

In 1992, an RFI was conducted at AOC A (ST-06). A Baseline Risk Assessment (BRA) was completed as part of this RFI. Soil and groundwater analytical results from the RFI were used to evaluate human health risks associated with exposure to contaminants in the affected media (RFI Report, April 1999). Data summary tables used for the HHRA are provided in Appendix E, Table 15.1 (subsurface soils) and Table 15.2 (groundwater). Potential exposure of both current and future human receptors (e.g., current and future industrial workers and hypothetical future residents) to groundwater and soil at AOC A was qualitatively evaluated in Table 15.3 (Appendix E) in the HHRA and was compared to EPA Region 4 risk-based concentrations (RBCs). Tables 15.4 and 15.5 (Appendix E) provide the results of site screening of soil and groundwater concentrations against Region 4 RBCs. A summary list of contaminants of concern (COCs) for groundwater and soil is provided in Table 15.6 (Appendix E).

The COCs identified per EPA Region 4 guidance included BTEX; 2,6-dinitrotoluene; 4-methylphenol; bis(2-ethylhexyl)phthalate; and naphthalene in groundwater. In addition, TPH in subsurface soil and groundwater also was identified as a COC in these media. The RFI recommended that only BTEX, naphthalene, and TPH be considered for potential remedial action at AOC A. It was recommended that the other COCs identified from the HHRA not be considered for potential remediation based on the magnitude of hazard/risk associated with exposure, the uncertainty of the quality of data, and the fact that none of the remaining COCs are associated with past activities at the site. All of the COCs identified at AOC A, except for TPH in subsurface soils, were detected in groundwater. As indicated in the RFI exposure assessment, shallow groundwater located in the Surficial aquifer beneath the site is highly unlikely to be used as a source of drinking water in the



LEGEND

MONITORING WELL WITH TOTAL BTEX

ND NOT DETECTED

GROUNDWATER FLOW DIRECTION

LINE OF EQUAL BTEX CONCENTRATION (FAC 1504)
ALL CONCENTRATIONS IN MICROGRAMS PER LITER

LINE OF EQUAL BTEX CONCENTRATION (AOC-A)
ALL CONCENTRATIONS IN MICROGRAMS PER LITER

0 120
SCALE

FIGURE 3-1
DISTRIBUTION OF TOTAL BTEX
FACILITY 1504 & AOC-A JUNE 2001
KEESLER AFB
BILOXI, MISSISSIPPI

future. The evaluation of shallow groundwater as a completed exposure pathway provides an extremely conservative assessment of potential risks associated with AOC A.

The HHRA identified groundwater (COCs benzene and TPH) as the primary media of concern that poses human health risks to future receptors (e.g., industrial workers and hypothetical future residents). TPH in subsurface soil was considered a COC. The maximum detected concentration (MDC; 1.7×10^7 micrograms per kilogram [$\mu\text{g}/\text{kg}$]) exceeded the UST regulation of 100 $\mu\text{g}/\text{kg}$. Results of the HHRA are summarized in Appendix E, Table 15.7, for each potential receptor.

Corrective actions for soils and groundwater are being implemented at ST-6 (AOC A) to remove contaminants. Soils at ST-6 (AOC A) are currently under corrective action, which include interim measures such as bioventing and density-driven convection (DDC), for removing petroleum hydrocarbons. Concentrations in the soils have been reduced and will be monitored and evaluated as part of the long-term monitoring and evaluation plan. The concentrations detected in soil during the corrective action (1998 sampling round) are lower than those used in the HHRA. Groundwater remedial alternatives consist of natural attenuation and long-term monitoring with LUCs (see Section 3.2.9 “Land Use”). Annual long-term monitoring and analysis will be conducted until contaminant concentrations drop below corrective action objectives or until the EPA and MDEQ decide that sampling activities can be extended or that monitoring is no longer necessary to continue.

Ecological Risk Assessment

According to the RFI, an ecological risk assessment was not completed for this site since no pathways consisting of an environmental medium of concern were identified, and exposure area or exposure routes were not identified. Therefore, no further ecological analysis of this site was conducted.

3.2.6 Infrastructure and Utilities

Potable Water

Keesler AFB obtains its drinking water from seven wells located on Keesler AFB (Atkins 2002). These wells extend through 600 feet (182.9 meters) of sand into unconfined aquifers located in the Miocene system, a geological formation that runs along most of the Mississippi coast. Each well can pump 500 to 1,000 gallons per minute (gpm; 1,893 to 3,785 liters per minute [lpm]) and is equipped with a chlorination treatment system (Williams 2002). Keesler AFB is in the process of permitting and drilling two new wells that can pump up to 1,500 gpm (5,678 lpm; Atkins 2002). Keesler AFB has the capacity to store 2.4 million gallons (9 million liters) of water in six 400,000-

gallon (1.5 million-liter) water towers. During the summer months, total water usage is approximately 3 million gallons per day (mgd; 11.4 million liters per day [mld]) and peak usage is estimated at 4 to 5 mgd (15.1 to 18.9 mld). Average flow is estimated at 2 mgd (7.6 mld; Atkins 2002).

Wastewater

The Keesler AFB wastewater collection system is composed of more than 400,000 linear feet (121,920 meters) of sewer mains (Atkins 2002). The system can accommodate a wastewater flow of approximately 3.24 mgd (12.3 mld; Atkins 2002). All wastewater generated from Keesler AFB is processed at one of two facilities, either the West Biloxi Wastewater Treatment Plant (WWTP) or the Keegan's Bayou WWTP. Currently, approximately 95 percent of all wastewater is treated at the West Biloxi WWTP, while the remaining 5 percent is treated by Keegan's Bayou WWTP (Atkins 2002).

The West Biloxi Sewage Treatment Plant (STP) provides secondary treatment of waste and is permitted to process 11.7 mgd (44.3 mld; Pahlavan 2002). While the plant has a peak design capacity of 25.0 mgd (94.6 mld), the average throughput is 8.0 mgd (30.3 mld; Pahlavan 2002). Effluent from the West Biloxi STP is discharged to the Back Bay of Biloxi. According to the plant manager, the effluent does not exceed the state quality requirements for its discharge, and the plant has recently received environmental awards for excellence (USAF 2000c).

Electrical Systems

Electricity is supplied by Mississippi Power via the Gulfport Power Plant. During CY01, Keesler AFB used 162,297,685 kilowatt-hours (kwh) of electricity (Daniel 2002 [e-mail]). Natural gas is supplied to the base via a high pressure main. There are approximately 370,000 linear feet of gas mains in the base distribution system (Atkins 2002). During CY98, Keesler AFB used 504,272 thousand cubic feet of natural gas (Atkins 2002).

Solid Waste Management

Municipal solid waste (MSW) at Keesler AFB is managed in accordance to the guidelines specified in AFI 32-7042, *Solid and Hazardous Waste Compliance*. In general, AFI 32-7042 establishes the requirement for installations to have a solid waste management program that incorporates the following: a solid waste management plan; procedures for handling, storage, collection, and disposal of solid waste; record-keeping and reporting; and pollution prevention (USAF 1997a).

In CY01, the base disposed of 7,081 tons of MSW (Daniel 2002 [e-mail]). Construction and demolition (C&D) waste from Keesler AFB is transported to the C. N. Williams Landfill, located in

north Harrison County (Pahlavan 2002). This C&D landfill is registered as a Class 1 rubbish site with a useful life of approximately 20 years (Pahlavan 2002). A service contractor collects and disposes MSW from Keesler AFB in the Pecan Grove Municipal Landfill located in Pass Christian, Mississippi (Pahlavan 2002). The Pecan Grove Landfill recently acquired an additional 100 acres (40.5 ha) increasing the useful life of this facility by a minimum of 15 years (Pahlavan 2002).

Transportation

The most recent traffic count or study at Keesler AFB was completed in 1986. Since that study, several missions such as weather training and the 2nd Air Force have been located at the base. Traffic problems occur in the western part of the base where an outdated street grid built in WWII runs in the directions of the runway and abandoned crosswind runway rather than in the north-south directions. The base design consists of numerous streets and smaller blocks that create traffic control concerns.

Larcher Boulevard, a primary road for the base, connects the main gate and the medical center. Ploesti Drive serves as the primary road carrying traffic from off base areas to the west. Meadows Road, leading from Gate 1, is a third primary road.

3.2.7 Biological Resources

Much of Keesler AFB has been developed by the construction of buildings and paving for runways or parking. This development has limited the vegetation and wildlife species present on the base both in numbers and in diversity.

Vegetation

Vegetation on the base consists primarily of maintained grassy areas and ornamental trees. The live oaks (*Quercus virginianq*) and slash pines (*Pinus Elliottii*) remaining on base are dominant components of the original climax upland pine-oak association. Many of the remaining live oaks at Keesler AFB have been designated as “heritage trees.” Heritage trees are old, large flora species that the City of Biloxi and the Base Commander have set aside for conservation (Rickis-Gordon 2000b). Groundcover on base consists primarily of Bermuda grass (*Cynodon dactylon*), centipede grass (*Eremochloa ophiuroides*), and St. Augustine grass (*Stenotaphrum secundatum*; USAF 1994).

Wildlife

Wildlife found on base are primarily limited to those adapted to disturbance and development. Mammals potentially occurring on base include raccoon (*Procyon lotor*), rice rat (*Oryzomys palustris*), cotton rat (*Sigmodon hispidus*), Norway rat (*Rattus norvegicus*), and the house mouse (*Mus musculus*). Bird species that may occur on base include Northern mockingbird (*Mimus*

polyglottos), house sparrow (*Passer domesticus*), brown thrasher (*Toxostoma rufum*), cardinal (*Cardinalis cardinalis*), blue jay (*Cyanocitta cristata*), and mourning dove (*Zenaida macroura*; USAF 1994).

Endangered, Threatened, and Special Status Species

In August 2001, Keesler AFB conducted a threatened and endangered species survey. Upon the completion of this survey, a number of species were identified that may potentially occur within Harrison County, Mississippi, of which, only the brown pelican was observed on the base near the Back Bay area. Table 3-2 below identifies the several federally listed species potentially occurring in Harrison County, Mississippi.

Table 3-2

Federal and State Listed Species Potentially Occurring in Harrison County, Mississippi		Status	
Common Name	Scientific Name	Federal	State
Louisiana black bear	<i>Ursus americanus luteolus</i>	Threatened	--
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened	Endangered
Brown pelican	<i>Pelicanus occidentalis</i>	Endangered	Endangered
Mississippi sandhill crane	<i>Grus canadensis pulla</i>	Endangered	Endangered
Snowy plover	<i>Charadrius alexandrinus</i>	--	Endangered
Piping plover	<i>Charadrius melanotos</i>	Threatened	Endangered
Red-cockaded woodpecker	<i>Picoides borealis</i>	Endangered	Endangered
Bewick's wren	<i>Thryomanes bewickii</i>	--	Endangered
Gulf sturgeon	<i>Acipenser oxyrinchus desotoi</i>	Threatened	Endangered
Manatee	<i>Trichechus manatus</i>	Endangered	Endangered
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	--
Hawksbilled sea turtle	<i>Eretmochelys imbricata</i>	Endangered	--
Green sea turtle	<i>Chelonia mydas</i>	Threatened	Endangered
Loggerhead sea turtle	<i>Caretta caretta</i>	Threatened	Endangered
Kemp's Ridley sea turtle	<i>Lepidochelys kempii</i>	Endangered	Endangered
Gopher tortoise	<i>Gopherus polyphemus</i>	Threatened	Endangered
Eastern indigo snake	<i>Drymarchon couperi</i>	Threatened	Endangered
Rainbow Snake	<i>Farancia erytrogramma</i>	--	Endangered
Southern hognose snake	<i>Heterodon simus</i>	--	Endangered
Black pine snake	<i>Pituaphis melanoleucus lodingi</i>	--	Endangered

Sources: United States Fish and Wildlife Service (USFWS) 1999; EPA 1999b; and MNHP 1999.

3.2.8 Cultural Resources

Cultural resources at Keesler AFB are managed in accordance with environmental laws; Air Force Regulation 126-7, *Historic Preservation*; AFI 32-7061; the National Historic Preservation Act (NHPA) of 1966, as amended; and MDAH guidelines.

Historic Resources

In 1988, Keesler AFB personnel completed an assessment of the base's pre-WWII and WWII-era buildings, and the documentation was reviewed by MDAH. One pre-WWII building was identified as eligible for the National Register of Historic Places (NRHP). This building, the Old Biloxi Hangar (Building #288), dates to 1938 and is associated with early aviation in Mississippi. No WWII-era buildings were considered eligible for the NRHP. There are no historic resources located on or in the vicinity of the proposed action site.

Archaeological Resources

No prehistoric or historical archaeological sites have been recorded on Keesler AFB property (USAF 1996a, Thorne 1993, Husley 1996). An archaeological assessment and management recommendation study for Keesler AFB was conducted in 1993. Based on a survey of portions of the base and a review of historic photographs and maps, the study concluded that intensive construction on the majority of the base property had disturbed any archaeological sites that may have existed. The only exception identified was the Federal Reserve Park in the northeast corner of the base, where, due to less ground disturbance, archaeological sites may remain.

In 1996, a report was produced through the Legacy Program. This report concurred with the archaeological assessment and management recommendation study regarding the low potential for archaeological resources at Keesler AFB. The Legacy study included on-site archaeological investigations that consisted of a pedestrian survey along the Back Bay shoreline and a few selected shovel tests within the Reserve Park. No archaeological resources were found during these investigations (Husley 1996).

3.2.9 Socioeconomic Resources

Land Use

Keesler AFB is situated on a coastal plain in an area between the cities of Biloxi and Gulfport, Mississippi. Portions of the northern boundary of the base coincide with the Back Bay of Biloxi. Most of the land on Keesler AFB is improved and/or developed. Because of the highly developed condition of the base, a strong emphasis is placed on consolidating buildings to maximize the efficient use of space on the base.

Runway and flight line facilities are located in the western portion of the base, while the administrative, support, and service facilities are located in the eastern portion (Figure 3-2). Keesler AFB completed a *Base General Plan* in July 1996 that details the installation's existing and future land use plans. The land use categories are: airfield (aprons, runways, and taxiways); aircraft operations and maintenance; industrial; technical training; administrative; community commercial; community service; medical; accompanied (family) housing (including off-base housing areas); unaccompanied housing; recreation; water; and open space (Figure 3-2).

The preferred site location is at site AOC A, an active IRP site. Because of the contaminants located at this site, EPA, MDEQ, and the USAF have instituted LUCs. The primary purpose for establishing LUCs for AOC A is to ensure that the corrective measures are protective of human health and the environment. The Environmental Restoration Program Manager (ERPM) is responsible for implementing and maintaining the LUCs. The LUCs established for site AOC A include the following:

- The property is restricted from residential use or development. Any change in land use from the BX Service Station must be approved by the EPA and MDEQ before implementation.
- The shallow aquifer under or near the site shall not be used as a water supply source for any use: potable, industrial, or irrigation.
- Digging into the land surface and soil removal are prohibited without approval of the ERPM.
- No additional structures shall be built on the site without prior notification and approval of the ERPM.
- Maintenance or replacement of existing underground utilities in the same or new locations on the site is restricted without notification and approval of the ERPM.

Visual Quality

The majority of the facilities on Keesler AFB are very similar in architectural character with the exception of some older structures. Standards in architectural and structural design are required as a part of the AETC Base Architectural Standards for Excellence (Kinman 2002). Written architectural standards do not exist on Keesler AFB, however, it is generally understood that all buildings will be constructed from either brick or stucco and will have a metal seam roof system (Kinman 2002).

Economy and Employment

The population associated directly with Keesler AFB in 2002 is comprised of 12,110 military personnel, including 5,752 on base and 6,358 total off-base military personnel, and 3,843 civilian personnel (USAF 2000). The total payroll for Keesler AFB in 2000 was \$409,645,853 (USAF 2000).

For 2000, Keesler AFB had an economic impact of \$1,435,039,746 on the local economy, creating 4,842 secondary and indirect jobs (USAF 2000).

Recreation and Community Support Facilities

Keesler AFB has three major outdoor recreation areas: the marina and associated 25-acre recreation and picnic area (Naval Reserve Oaks), a recreational vehicle family camp (Fam Camp), and an eighteen-hole golf course.

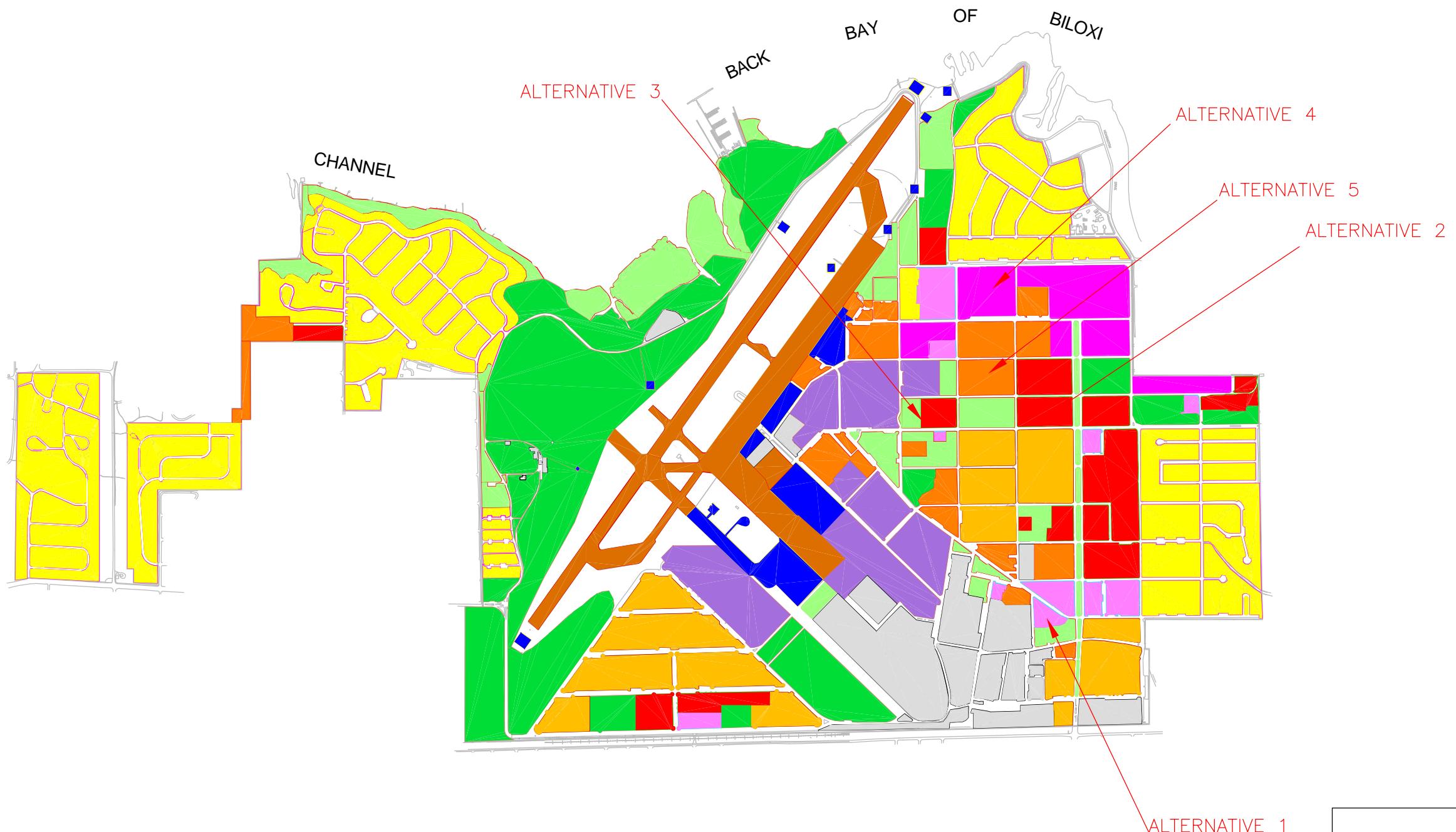


FIGURE 3-2
CURRENT LAND USE
KEESLER AFB
BILOXI, MISSISSIPPI

(NOT TO SCALE)
SOURCE : KEESLER AFB GENERAL PLAN PREPARED BY PARSONS ENGINEERING

4

Environmental Consequences

This section discusses the potential environmental impacts of the proposed action (Alternative 2) and the no-action alternative (Alternative 6). The discussion includes potential short-term or long-term impacts associated with the implementation of the proposed action (Alternative 2) or the no-action alternative.

4.1 Change in Current Mission

No change to Keesler AFB's current mission would result from implementation of the proposed action. The base would continue to operate as a training facility, and as a home for the medical center and hurricane hunters. The proposed action would allow the base to meet mission requirements more efficiently through the provision of better services for base personnel. Consolidation of these facilities (e.g., gas station, car-care center, shoppette and class six, and fast food facility) on one site would allow the base to utilize other existing vacant parcels to accomplish the base mission – an important consideration given the highly developed condition of the base.

4.2 Description of the Affected Environment

4.2.1 Earth Resources

Preferred Alternative (Alternative 2)

Topography

Since the site is altered from past construction activities, the proposed action under Alternative 2 would have no effect upon topographical features at Keesler AFB.

Soils

Under the preferred alternative, soil profiles would not be impacted because the site has already been disturbed by previous development activities. Soil erosion and sedimentation would be avoided by adherence to a sediment control plan that includes the use of best management practices (BMPs) such as rock berms, silt fences, and single-point construction entries that would minimize erosion potential. Soils removed during construction and excavation activities would likely contain contaminants. Efforts to minimize health and safety and ecological risks associated with contaminated soils are discussed further in Section 4.2.5, “Hazardous Materials, Wastes, and Environmental Contamination.” At this time, it is uncertain the amount of soils to be excavated from the site since a final site design does not exist. No long-term impacts on geologic or soil resources would be anticipated from the proposed action. In addition, there are no known unique geologic features or mineral resources that would be affected at the site.

No-Action Alternative (Alternative 6)

The no-action alternative would have no effect on the topography or soils of Keesler AFB.

4.2.2 Air Quality

Preferred Alternative (Alternative 2)

Implementation of the proposed action under Alternative 2 would generate two types of short-term emissions – fugitive dust and exhaust/crankcase emissions from construction and demolition equipment. Fugitive dust particulates may contain ACM and would be managed in accordance with the existing *Asbestos Operating and Management Plan* (USAF 2002). USTs are listed as emission points on the Keesler AFB Title V permit. Removal or addition of tanks will require a modification to the permit. Following construction, use of the proposed project facilities would result in a reduction in the number of commuter trips to and from off-base gas stations, stores, and restaurants. The corresponding reduction in auto emissions would constitute a positive air quality impact on the community.

No-Action Alternative (Alternative 6)

The no-action alternative would have no effect on air quality at Keesler AFB.

4.2.3 Water Resources

Preferred Alternative (Alternative 2)

Surface Water

The preferred alternative would have a minor negative impact to water resources due to an increase in stormwater runoff as a result of the increase in impervious surface area. However, since this site is located within an already developed area of the base, the existing stormwater facilities would be sufficient to accommodate the increase in impervious surface area. This increase in impervious surface area would not be expected to significantly increase the occurrence of flooding on base during heavy rainfall periods. Any potential increase in non-point source pollution from the facility or the vehicles at the facility would be avoided by adherence to the *Stormwater Pollution Prevention Plan* (SWPPP; USAF 1999b).

Groundwater

No impact to groundwater would be expected as a result of the proposed action. However, because of the depth of groundwater (approximately 5 feet [1.5 m]), it is possible that during the excavation and trenching activities of the existing piping and foundation construction, construction workers may contact contaminated groundwater. This may necessitate the capture and analysis of a large volume of groundwater. At this time, it is uncertain the amount of groundwater that would be contacted since a final site design does not exist. Groundwater concerns are addressed further in Section 4.2.5, “Hazardous Materials, Wastes and Environmental Contamination.” Safety requirements are addressed further in Section 4.2.10, “Safety and Occupational Health.”

Wetlands

No impact to wetlands would occur by implementing the proposed action under Alternative 2. The preferred site does not contain any wetlands, nor is the site adjacent to any wetlands.

Floodplains

The proposed action would be sited outside the 100-year and 500-year floodplain. Therefore, the location of the facility at the preferred site would not affect the attenuation capacity of the 100-year or 500-year floodplain.

No-Action Alternative (Alternative 6)

The no-action alternative would have no effect on water resources at Keesler AFB.

4.2.4 Noise

Preferred Alternative (Alternative 2)

Implementation of the proposed action under Alternative 2 would result in intermittent, increased noise levels during construction and demolition activities. This level of noise would be temporary and would occur only during daylight hours. Because of the temporary and limited time periods of construction and demolition-generated noise, only short-term, minor noise impacts are anticipated for areas in the immediate vicinity of the site. Long-term noise impacts from operational activities would be slightly increased due to increased delivery vehicles to the facility and increased numbers of customer vehicles entering and exiting the shopping facility.

No-Action Alternative (Alternative 6)

The no-action alternative would have no effect on noise levels at Keesler AFB.

4.2.5 Hazardous Materials and Wastes

Preferred Alternative (Alternative 2)

Hazardous Materials and Wastes

Because of the increase in the size of the AAFES facility and the anticipated increase in the number of customers, it is expected that implementation of the proposed action would increase the generation of hazardous wastes. Hazardous wastes generated by this facility would include used oil, tires, antifreeze, and other automobile fluids consistent with a car-care facility. These waste products would be recyclable and would be handled in the same manner as currently handled.

Hazardous materials used during the construction, demolition, and operation of the facility would be managed in accordance with AFI 32-7086 *Hazardous Materials Management*. The use of hazardous materials at the base is guided by the Keesler AFB *Pollution Prevention Management Action Plan* (USAF 1995) under the USAF Pollution Prevention Program. Accordingly, all hazardous materials brought on base must receive prior authorization. In addition, every one to two years, the use and application of each hazardous product is reviewed.

For all petroleum, oil, and lubricant (POL) materials, spill prevention guidelines are detailed in the base *Spill Prevention, Control, and Countermeasure (SPCC) Plan*. In addition, the base SWPPP details BMPs implemented at the base for prevention of the release of hazardous materials into the adjacent estuary (Back Bay of Biloxi).

Asbestos and Lead Paint

According to base surveys, the existing gas station and car-care facility at the preferred site contains asbestos and most likely lead paint. The facility would be demolished as part of the proposed action. All asbestos removed during demolition activities would be managed in accordance with the base's *Asbestos Operating and Management Plan*. This plan specifies procedures for the removal, encapsulation, enclosure, and repair activities associated with ACM abatement projects. These actions are designed to protect personnel who live and work on Keesler AFB from exposure to airborne asbestos fibers, as well as to ensure that Keesler AFB remains in compliance with all federal, state, and local regulations pertaining to asbestos (USAF 1993). Any lead-based paint discovered during demolition activities would be managed in accordance with the USAF policy (USAF 1993).

ST-6 (AOC A)

Earth-moving activities associated with construction at the preferred site would likely result in the disturbance of contaminated soils and potentially groundwater (Noble 2002a). Other concerns related to construction at this site include potential disturbances to ongoing monitoring programs. Any construction activities at this site could impact current monitoring programs (Noble 2002b). Construction activities associated with the proposed action have the potential to destroy existing groundwater monitoring wells located at the preferred site (Noble 2002b). It is expected that the final site design will be such as to avoid any impact to ongoing remediation efforts.

An HHRA was performed previously at site AOC A as part of the RFI process. Soil and groundwater analytical results concluded that BTEX and naphthalene existed in groundwater while TPH existed in subsurface soils at AOC A. Soils at the site are currently under corrective action and groundwater is being monitored over the long-term. Concentrations in the soils have been reduced and will be monitored as part of the long-term monitoring and evaluation plan.

Construction at this site is dependent upon the approval of the waiver from the USAF and the concurrence of the EPA and MDEQ. All construction activities at this site would be coordinated with the IRP and require approval by the AETC, EPA and MDEQ (see Section 4.2.9). A Health and Safety Plan would be prepared and would require that any construction or excavation activities that occur at site AOC A be performed by 40-hour Hazard Waste Operation and Emergency Responder (HazWoper) trained and certified personnel. A Health and Safety Officer would be located on the site to monitor vapor during excavation. All soils and groundwater excavated from the site must be sampled and analyzed in order to determine the appropriate method and location of disposal.

No-Action Alternative (Alternative 6)

The no-action alternative would have no effect on the use or generation of hazardous materials.

4.2.6 Biological Resources

Preferred Alternative (Alternative 2)

Vegetation

The preferred site is currently developed and contains a building, gas-dispensing islands, parking, and landscaped areas. The preferred alternative would have minor negative impacts to natural or landscaped vegetation. The majority of the existing planted shrubs and trees would remain during and following the construction. All trees to be removed would be coordinated with the Natural Resources Manager to ensure that they are not heritage trees. Any heritage trees to be removed would be coordinated with the City of Biloxi and the Base Commander. The completed facility would also be revegetated to be consistent with landscaping in other developed and landscaped areas of the base.

Wildlife

Habitat suitable for wildlife does not exist on the proposed site. There would be no effect on wildlife or plants.

Threatened, Endangered and Rare Wildlife and Plants

Habitat suitable for threatened, endangered, or rare wildlife and plants does not exist on the proposed site. There would be no effect on listed or rare wildlife or plants as a result of the proposed action.

No-Action Alternative (Alternative 6)

The no-action alternative would have no effect on biological resources at Keesler AFB.

4.2.7 Infrastructure and Utilities

Preferred Alternative (Alternative 2)

Consolidation of all services at one site would result in a more efficient use of utilities and resources during the operation of the facility. In addition, by demolishing and upgrading the existing facility, energy efficiency would likely increase.

Sanitary Sewer/Drainage

The existing West Biloxi WWTP has adequate capacity to supply services for the proposed action (Pahlavan 2002). No modification of the system's existing permit would be required.

Construction of the proposed action and the improvement to the adjacent parking lot would result in an increase of impervious surface area on the base. However, it is anticipated that no additional stormwater discharges would be required as a part of the construction on the preferred site. The occurrence of flooding on the base from heavy rainfall would not increase as a result of the proposed action. Any possible contaminant discharges from the site would be minimized through the use of the management practices contained in the base's SWPPP.

Potable Water

The existing water system at Keesler AFB has adequate capacity to supply services for the proposed action (Atkins 2002).

Solid Waste Management

Additional solid wastes would be generated from the proposed facility and would be disposed of in a state-approved landfill. The adverse effects from additional solid waste generated by the construction, demolition, or operation of the proposed facility would not be significant.

Transportation Systems

Because the number of military personnel assigned to Keesler AFB would not be expected to increase as a result of the proposed action, there would be no associated increase in the number of trips to and from the base by military personnel and their dependants, or by civilian workers. In fact, the number of trips to/from the base may potentially decrease as a result of an on-base fast food facility and the overall efficiency of the collocated services. The proposed action would also result in a redistribution of trips on the base roadway network. Trips to the proposed facility would increase due to the improved access and the increased number of services provided. This anticipated increase in trips would most likely be offset by the reduction in trips to other portions of the base. Traffic flow on base would not be negatively impacted by the proposed action. The proposed action would be located at a major signalized intersection on base. Furthermore, roadway cuts would be positioned as not to impede the flow of traffic in and around the intersection.

Electrical Systems/Natural Gas

There would be no effect on electric and natural gas services as a result of the proposed action (Lyons 2002).

No-Action Alternative (Alternative 6)

The no-action alternative would not change existing infrastructure.

4.2.8 Cultural Resources

Preferred Alternative (Alternative 2)

Historical Resources

Implementation of the proposed action at the preferred site would not affect any historical resources since none are located on or in the vicinity of the proposed site.

Archaeological Resources

The preferred site is a paved parking lot that has been previously disturbed. The State Historic Preservation Officer (SHPO) concurs that the site does not contain any archaeological and architectural resources (see Appendix A). If archaeological resources were unearthed during construction, the contractor would be required to stop excavation in the vicinity of the find and notify the base's Cultural Resources Manager.

No-Action Alternative (Alternative 6)

The no-action alternative would not affect any historical or cultural resources.

4.2.9 Socioeconomic Resources

Preferred Alternative (Alternative 2)

Land Use

The preferred site would be located within Keesler AFB's planning boundaries. The proposed action would be consistent with the base's land-use management strategy and would be compatible with surrounding land-use activities. There would be no effect to land-use designations or existing land uses as a result of implementing the proposed action.

The preferred site has LUCs developed as a result of the HHRA, which restricts the future use of this site. These LUCs are implemented under the direction of EPA and MDEQ in an effort to prevent current construction activities from adversely affecting current or future remedial efforts. As implemented, these LUCs allow industrial or commercial type development, while disallowing all residential type development. In order to construct on this site, a two-step process

must be completed to thoroughly review the proposed action and potential impacts. First, the ERPM would submit a request to AETC to allow construction of the proposed action on this site. Next, a *Land Use Control Action Plan* (LUCAP) must be submitted to the EPA and MDEQ prior to construction of the proposed action. The EPA and MDEQ would then be required to agree with the proposed action and LUCAP and determine that there are no human health or ecological impacts associated with the proposed action. These requirements would lengthen the construction time period potentially as much as several months.

Visual Quality

The new facility would be constructed in accordance with AETC Base Guidelines (Kinman 2002). The site would be disturbed during construction and the extension to the bowling alley parking lot would be paved with asphalt. Construction materials would be selected for appropriateness of aesthetic design, ease in maintenance, appropriateness for the intended use, and cost. The proposed action would not negatively impact visual quality, and would likely improve the aesthetics of the area.

Economy and Employment

Existing personnel from the current shoppette and class six and gas station would likely be employed at the new facility once constructed. The new car-care center and the fast food business would require the hiring of additional personnel.

The proposed action would have a slight positive effect on Keesler AFB's economy by enhancing on-base services and increasing revenues for MWR services. A few employment opportunities would be available because the fast food business would need to hire additional personnel. There would not be a significant, adverse impact to the regional economy.

Environmental Justice

The proposed action would not disproportionately affect minority or low-income communities, nor cause the displacement of any residents, eliminate jobs, or affect wages.

Protection of Children from Environmental Health Risks and Safety Risks

Potential environmental health and safety risks to children as a result of implementing the proposed action were evaluated in accordance with Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. Implementation of the proposed action would not result in a disproportionate risk to children from environmental health risks or safety risks. The proposed action would not include the introduction of hazardous materials to the site that would present a disproportionate risk to children.

As indicated previously, environmental contaminants exist on the proposed site. During construction, the existing BX would be demolished removing asbestos and potential lead-based paint. Environmental contamination in the soil and groundwater is being controlled through long-term monitoring and natural attenuation. Furthermore, LUCs exist that restrict the site from residential use, thereby, minimizing the potential for children's exposure to contaminants.

Recreation and Community Support Facilities

No recreational uses or community support facilities currently occur on the proposed site and there would be no additional demand for such facilities; therefore, no impacts would be anticipated. A positive community support effect would occur due to the convenience of gas, food and beverages.

No-Action Alternative (Alternative 6)

The no-action alternative would have no effect on land use, visual quality, economy or employment, or on the recreational or community support facilities at Keesler AFB.

4.2.10 Safety and Occupational Health

Preferred Alternative (Alternative 2)

All construction and demolition contractors and operations personnel associated with the proposed action would be responsible for compliance with applicable Occupational Safety and Health Act (OSHA) regulations concerning occupational hazards and specifying appropriate protective measures for all employees. Because of the environmental contamination present at the proposed site, an approved Health and Safety Plan would be necessary requiring that all construction workers be 40-hour HazWoper trained and certified. A Health and Safety Officer would be required to be on site to monitor vapors during excavation. Access to the preferred site would be of sufficient design to allow safe ingress and egress from Meadows Lane and Larcher Boulevard. The proposed action would not affect the safety and health of AAFES employees or customers.

No-Action Alternative (Alternative 6)

The no-action alternative would not affect the safety and health of AAFES employees or customers.

4.3 Unavoidable Adverse Environmental Effects

Unavoidable short-term negative effects of the proposed action would be primarily associated with construction activities. Impacts of the proposed action would include periodic high noise levels and fugitive dust emissions. However, these effects would be short term and generally limited to the immediate area.

Unavoidable long-term negative environmental effects would include a slight increased demand on the local infrastructure and utilities systems, including water supply, sewage treatment, electrical services, solid waste, and natural gas.

While these effects are insignificant, there are projected beneficial impacts associated with the proposed action that would offset any negative effects. Such beneficial impacts include the consolidation of services, thereby increasing energy efficiencies and decreasing off-base travel for these services.

4.4 Relationship Between Short-Term Uses of Environment and Long-Term Productivity

Short-term uses of the environment under the proposed action include temporary impacts to the physical environment during grading and construction, and short-term socioeconomic impacts, including maintenance and construction costs and expenditure of public funds for site improvements. The proposed action would enhance Keesler AFB's long-term productivity by providing better facilities for service members.

Short-term adverse impacts would result from vehicular noise and emissions during construction and demolition; these impacts would be mitigated, as required. The short-term need for construction laborers and local materials to complete construction would provide an economic benefit.

The proposed action would enhance Keesler AFB's long-term productivity by improving the morale and welfare of service members and their families. Better morale and welfare tends to lead to longer commitments with the USAF, thereby reducing the rate of service member turnover and training costs.

4.5 Irreversible and Irrecoverable Commitments of Resources

Implementation of the proposed action would result in irreversible and irretrievable commitments of resources by Keesler AFB and the Biloxi area. Committed resources would

include building materials and supplies and their cost; labor; planning and engineering costs; infrastructure capacity; federally owned property; and fossil fuels for construction vehicles. Other committed resources would include public funds from the federal government for construction. Operation of site facilities would require additional use of utility services.

4.6 Energy Requirements and Conservation Potential

The proposed action would result in a short-term increase in energy requirements in the form of fossil fuels required for construction and operations and maintenance activities. These energy requirements would be in addition to existing Keesler AFB requirements. Long-term energy demand would increase slightly following completion of the proposed action. Newly constructed facilities, however, would be designed to incorporate energy-saving methods, which could offset some of the increased energy demand.

4.7 Compatibility of the Proposed Action and Alternatives with the Objectives of Federal, Regional, State, and Local Land Use Plans, Policies, and Controls

4.7.1 Applicable Statutes and Regulations

The following applicable statutes and regulations were considered during the development of this EA:

- NEPA, 42 United States Code (U.S.C.) §§ 4321-4370(d) (1994) and AFI 32-7061, *The Environmental Impact Analysis Process*.
- Pollution Prevention Act of 1990, 42 U.S.C. §§ 13101-13109.
- Endangered Species Act (ESA) of 1973, 16 U.S.C. §§ 1531-1544 (1996).
- NHPA, 16 U.S.C. §§ 470(f) and (h-2) (1994).
- Clean Water Act (CWA), 33 U.S.C. §§ 1251-1377 (1994).
- Executive Order No. 11990, Protection of Wetlands, 42 Federal Regulation (FR) 26961, 3 CFR, 1977, Comp., p. 121.
- CAA, 42 U.S.C. §§ 7401-7671, as amended (1994).
- Executive Order No. 12898, Federal Actions to Address Environmental Justice, 59 FR 7629 (1994) amended by Executive Order No. 12948, 60 FR 6381 (1995).

- Executive Order No. 13045, 62 FR 19885 (1997).
- OSHA, 29 U.S.C. § 651 et seq.
- Executive Order 11988, Floodplain Management, 42 FR 26951, 3 CFR 1977 Comp., p. 117, amended by Executive Order No. 12148, Federal Emergency Management, 44 FR 43239, 3 CFR, 1979 Comp., p. 412.
- Coastal Zone Management Act of 1972 (CZMA), 16 U.S.C. §§ 1451-1467 (1996).
- NPDES General Permit for Stormwater Discharge from Construction Activities, Section 402, CWA.
- State Regulations.

4.7.2 Federal Regulatory Consistency Overview

This EA was prepared and reviewed for consistency with all applicable federal statutes and regulations.

NEPA, 42 U.S.C. §§ 4321-4370(d) (1994)

NEPA directs that all federal agencies ensure that environmental considerations be given appropriate consideration in decision-making, along with economic and technical considerations, to the extent possible. AFI 32-7061, *The Environmental Impact Analysis Process*, implements the NEPA requirements. This EA was prepared and will be reviewed in accordance with the provisions set forth in NEPA and AFI 32-7061. This EA considered the environmental consequences of the proposed action, expansion plans, and the no-action alternative. The document will be on file for review and comment by all appropriate federal, state, and local agencies, organizations, and interested persons.

Pollution Prevention Act of 1990, 42 U.S.C. §§ 13101-13109

This act established a national policy to prevent or reduce pollution at the source, whenever feasible. The proposed action and the alternatives would not cause any increase in pollution loadings.

ESA of 1973, 16 U.S.C. §§ 1531-1544 (1996)

The ESA of 1973 requires that any action authorized by a federal agency be unlikely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of that species habitat that is considered to be critical. Section 7 of the ESA requires that the responsible federal agency consult with the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) concerning

endangered and threatened species under each agency's control. There are no federally threatened or endangered species on or near the proposed construction area and there would be no effect to fish and wildlife habitat from implementing the proposed or the alternatives.

NHPA, 16 U.S.C. §§ 470(f) and (h-2) (1994)

The NHPA ensures preservation of our nation's historic and cultural resources. Section 106 of the NHPA requires that Keesler AFB consult with the appropriate federal, state, and local agencies regarding the potential for the proposed action and the alternatives to affect cultural resources of historical or archaeological significance. Neither the proposed action nor the alternatives would affect cultural resources of historical or archaeological significance.

CWA, 33 U.S.C. §§ 1251-1377 (1994)

The CWA, as amended, regulates discharges to the waters of the United States. The proposed action would comply with the provisions of the CWA. No alterations to water bodies would occur as part of this proposed action or the alternatives and there would be no increase in stormwater discharges.

Executive Order 11990, Protection of Wetlands

Executive Order 11990, Protection of Wetlands, directs agencies to take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands on federal property. Neither the proposed action nor the alternatives would affect any wetland areas.

CAA, 42 U.S.C. §§ 7401-7671, as amended (1994)

The CAA, as amended, provides for the protection and enhancement of the nation's air resources. The location of the proposed action and the alternatives is in an attainment area and implementing any of these actions would not affect ambient air quality.

Executive Order No. 12898, Federal Actions to Address Environmental Justice, amended by Executive Order No. 12946, Federal Emergency Management

In accordance with Executive Order 12898, Keesler AFB is required to identify and address, as appropriate, the potential for disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations. Environmental justice issues have been assessed for this proposed action and the alternatives, and minority or low-income populations would not be disproportionately affected by the proposed action.

Executive Order No. 13045, 62 FR 19885 (1997)

Federal agencies are required to ensure that their policies, programs, and activities address disproportionate environmental risk and safety risk to children. Implementation of the proposed action would not result in a disproportionate environmental risk and safety risk to children. New hazardous materials would not be introduced as part of the proposed action and all activities proposed would not increase the potential risk for contaminant exposure to children.

OSHA, 29 U.S.C. § 615 et seq. (1970)

OSHA provides for safe and healthful working conditions. The contractor and operations personnel would be responsible for compliance with applicable OSHA regulations, and neither the proposed action nor the alternatives would affect safety and health during construction or operation of the facility.

Executive Order 11988, amended by Executive Order No. 12148, Floodplain Management

Executive Orders No. 11988 and No. 12148 require federal service agencies to avoid activities that directly or indirectly result in development of floodplain areas. Neither the proposed action nor the alternatives are located within the 100-year floodplain.

CZMA, 16 U.S.C. §§ 1451-1467 (1996)

The CZMA, as amended, provides for preservation, protection, development, and, where feasible, restoration or enhancement of the nation's coastal zone.

NPDES General Permit for Stormwater Discharge from Construction Activities, Section 402, CWA

Current regulations require a NPDES permit for construction activities affecting more than 5 acres, but the threshold will be reduced to 1 acre after March 2002. The proposed action does not require NPDES coverage unless it is in progress or commences after March 2003. Stormwater from the proposed action would be covered under a general clause.

4.7.3 State Regulatory Consistency Overview

As a part of the federal government's landholdings, Keesler AFB is exempt from most state and local zoning and planning regulations. However, it is USAF policy to work closely with state and local officials and to comply with state and local regulations to the maximum extent practicable while remaining consistent with mission and operational requirements. The proposed action and the alternatives would not conflict with any state or local land use or growth management regulations.

Mississippi Coastal Management Act Stat. Ch. 380.20-380.27 (1997)

In 1997, the Mississippi Legislature adopted the Mississippi Coastal Management Act. This act authorized the development of a coastal management program to implement the federal government's CZMA. In 1998, the Mississippi Coastal Management Program (MCMP) was submitted to the Secretary of the United States Department of Commerce and was approved. Wetland permits and the mitigation measures must be approved prior to the provision of a letter of coastal zone consistency by the Mississippi Department of Marine Resources.

MDEQ, Mississippi Endangered and Threatened Species Act of 1977

Potentially occurring state-listed species have been identified for the project site and are addressed in this EA.

5 Environmental Permits and Contractor Requirements for the Preferred Alternative

Environmental Notices And Compliances Likely To Be Required	
Forms and Approvals	Agency
Sediment Control Plan	MDEQ
NPDES construction permit requirements	MDEQ
Compliance and Permit Requirements	Agency
Coordination and Clearances to construct on a contaminated site	EPA and MDEQ
Modify Land Use Controls and Waiver Request	Keesler AFB, AETC/CE, and EPA
Modify RCRA Permit	Keesler AFB and EPA
Modify Air Permit	Keesler AFB and EPA
Permits associated with the demolition of the asbestos floor tile in the existing AAFES facility.	Keesler AFB
Notification of Installation Restoration Advisory Board	Keesler AFB
Other permits may also be required after a more thorough review, specifically dealing with the car-care center operations, gas station operations, and/or the restaurant operations.	Keesler AFB
Integrated Natural Resources Management Plan	Keesler AFB
Stormwater Pollution Prevention Plan	Keesler AFB
Solid Waste Management Plan	Keesler AFB
Spill Prevention and Response Plan	Keesler AFB
Dig Permit	Keesler AFB
Hazardous Materials Management Process	Keelser AFB
Affirmative Procurement	Keesler AFB
Recycling-Diversion Rates	Keesler AFB

Key:

Keesler AFB = Keesler Air Force Base.

EPA = United States Environmental Protection Agency

MDEQ = Mississippi Department of Environmental Quality.

AETC/CE = Air Education Training Command/Civil Engineering.

Contractor Requirements

The following are necessary contract requirements that would be associated with the construction of the proposed facility at the proposed site:

- The contractor would be responsible for complying with all applicable permit and management plan requirements listed in Table 5-1.
- The contractor would be responsible for compliance with applicable OSHA regulations concerning occupational hazards and specifying appropriate protective measures for all employees.
- Submission of an Erosion Control Plan and approval of the plan by the state would be required before commencing construction activities.
- All storm drains would be protected during construction activities and cleared of all debris after completion of construction.
- Hazardous materials brought to the construction site would require registration and tracking by the Environmental Management Information System in accordance with Keesler AFB hazardous materials handling procedures.
- Silt fencing would be required along the edges of the area prior to any grading operations. The fencing would remain in place until the disturbance area has been stabilized.
- Hay bales or gravel check dams would be used to divert flow and dissipate energy in areas of heavy flow.
- The destruction of trees and shrubs outside the development envelope would be avoided. Trees would be flagged and protected to the drip-line with snow fencing or similar protection. Trees that require pruning would be cut in accordance with standards established by the American Society for Testing and Materials (ASTM).
- Existing landscaping, trees, shrubs, and vegetation that would remain on the site should be protected from construction impacts.
- Landscaping vegetation should be coordinated with existing plantings. Contractor would be responsible for landscaping for one year after acceptance of site.
- Deciduous trees should be native from region and not attractive to birds or deer. Native trees that are not particularly attractive to wildlife include red maple, eastern redbud, and sweetgum.
- Materials and demolition debris would be recycled according to Keesler AFB policies.
- Exposed soil would be sprayed with water twice daily to minimize dust emissions.
- Any construction materials that may be a source of dust would be covered.
- Vehicular speed in the construction area would be limited and truck beds would be covered to minimize the emission of airborne dust.

- Automobile and construction vehicle engines would be shut off when not in use.

The following are prohibited:

- Dumping of spoil material into any stream corridor, wetland, surface waters, or at unspecified locations;
- Indiscriminate, arbitrary, or capricious operation of equipment in any stream corridors, wetlands, or surface waters;
- Pumping of silt-laden water from trenches or other excavations into any surface waters, stream corridors, or wetlands;
- Disposal of trees, brush, and other debris in any stream corridors, wetlands, surface waters, or at unspecified locations;
- Permanent or unspecified alteration of the flow line of the stream;
- Open burning of construction project debris; and
- Use of chemicals for dust control.

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List of Preparers

The AAFES liaison associated with the preparation of this EA is:

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Departments of the Army and Air Force
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3911 South Walton Walker Blvd,
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Randy Thompson
Departments of the Army and Air Force
Army and Air Force Exchange Service
HQ AAFES
3911 South Walton Walker Blvd,
Dallas, TX 75236-1598
(214) 312-2099

The contractor responsible for preparing this EA is:

Ecology and Environment, Inc.
1950 Commonwealth Lane
Tallahassee, FL 32303

The following individuals contributed to the preparation of this EA:

Name	Role	Project Responsibility
Gene Stillman	Project Manager	Project Management; Quality Assurance; Alternatives Analysis; Identification of Affected Environment
David Helter	Project Director and Technical Review	Quality Assurance; Alternatives Analysis; Identification of Affected Environment
Gina Edwards	Senior Technical Editor	Document Control and Editing
Cindy Dick	Graphic Artist	Figures
Ken Starling	CADD Operator	Maps, Figures

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Persons and Agencies Consulted

Keesler Air Force Base, Civil Engineering

- Don Kinman, Planning;
- George Daniel, Natural Resources;
- Bo Shelton, Sanitary Sewer, Solid Waste;
- Russ Duckworth, CADD Resources;
- Chester Atkins, Surface Water;
- Ted James, Air Quality;
- Lisa Noble, IRP; and
- Lt. Lyons, Electrical Engineer.

Army and Air Force Exchange Service

- Brenda T. Morton, Facility Manager;
- Greg Smith, Project Manager/Engineer; and
- Derrick Vinson, Shift Manager.

State of Mississippi

- Ken Lefleur, General Permits, MDEQ;
- Elbert Hilliard, SHPO, MDAH;

- Charles Chisolm, Executive Director, MDEQ; and
- Cathy Malette, Office of Federal Grants, Mississippi Department of Finance and Administration.

Federal Government Agencies

- United States Department of the Army, USACE, Mobile District Office;
- Kenneth O. Burris, Jr., Regional Director, FEMA, Region IV;
- Ray Aycock, Field Supervisor, USFWS, Jackson Field Office; and
- Keith Taniguchi, Chief, USFWS, Region 4, Habitat Conservation Division.

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- Biondo, Charles V., May 28, 2002, Asbestos Lead Manager, 81 CES/CE, Keesler AFB, personal communication, e-mail correspondence to Gene Stillman, Ecology and Environment, Inc., Tallahassee, Florida.
- Daniel, George, May 29, 2002, Natural Resources Manager, 81 CES/CE, Keesler AFB, personal communication, e-mail to Gene Stillman, Ecology and Environment, Inc., Tallahassee, Florida.
- Hirschel Cheryl L, May 28, 2002, Public Affairs Office, 81 TRW, Keesler AFB, personal communication, e-mail "Base Economic Impact Statement 2000" to Gene Stillman, Ecology and Environment, Inc., Tallahassee, Florida.
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Shelton, Bo, May 30, 2002, Hazardous Waste and Solid Waste Specialist, 81 CES/CE, Keesler AFB, personal communication, telephone conversation with Gene Stillman, Ecology and Environment, Inc., Tallahassee, Florida.

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communication, telephone conversation with Gene Stillman, Ecology and Environment, Inc.,
Tallahassee, Florida.

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A

Agency Correspondence

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DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

MAY 29 2002

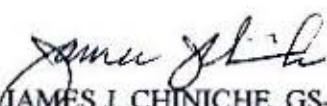
MEMORANDUM FOR Mississippi Department of Archives and History

Attn: Mr. Elbert Hilliard, SHPO
P O Box 571
Jackson MS 39289

FROM: 81 CES/CEV

SUBJECT: Environmental Assessment for the Construction of a Gas Station, Car-Care Center,
Shoppette Class Six and Taco Johns Restaurant at Keesler Air Force Base, Mississippi.

1. Ecology & Environment, Inc. has been contracted by the US Air Force to prepare an environmental assessment for the proposed construction of the above mentioned facility at Keesler Air Force Base, Mississippi. The Environmental Assessment will be prepared to comply with the National Environmental Policy Act of 1969 (NEPA) and Air Force environmental policy.
2. The new facilities would be located within existing Keesler Air Force Base property boundaries. The facilities to be constructed include a new gas station, car-care center, shoppette class six and Taco Johns restaurant. Ecology & Environment, Inc will be collecting and analyzing existing environmental and socioeconomic data as well as identifying potential impacts that may occur as a result of this proposed action. Attached for your reference is a vicinity map with the preferred site location for the proposed facility.
3. This letter solicits your comments and concerns regarding the proposed action. Please direct questions to Mr. Stillman at (850) 574-1400 or by e-mail at gstillman@ene.com. Thank you in advance for your prompt attention to this matter.


JAMES J. CHNICHE, GS-13, USAF
Chief, Environmental Flight
81st Civil Engineer Squadron

Attachment:
Vicinity Map



DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

MAY 29 2002

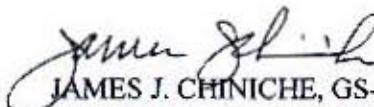
MEMORANDUM FOR Mississippi Department of Environmental Quality

Attn: Mr. Charles Chisolm, Executive Director
P O Box 20305
Jackson MS 39289

FROM: 81 CES/CEV

SUBJECT: Environmental Assessment for the Construction of a Gas Station, Car-Care Center, Shoppette Class Six and Taco Johns Restaurant at Keesler Air Force Base, Mississippi.

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Chief, Environmental Flight
81st Civil Engineer Squadron

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DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

MAY 29 2002

MEMORANDUM FOR USFWS Region 4

Attn: Mr. Keith Taniguchi, Chief Habitat Conservation Div.
1875 Century Blvd, Suite 200
Atlanta GA 30345

FROM: 81 CES/CEV

SUBJECT: Environmental Assessment for the Construction of a Gas Station, Car-Care Center,
Shoppette Class Six and Taco Johns Restaurant at Keesler Air Force Base, Mississippi.

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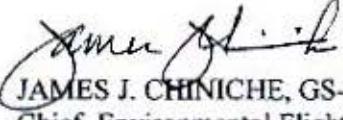
MAY 29 2002

MEMORANDUM FOR USFWS Jackson Field Office
Attn: Mr. Ray Aycock, Field Supervisor
6578 Dogwood View Pkwy, Ste A
Jackson MS 39213

FROM: 81 CES/CEV

SUBJECT: Environmental Assessment for the Construction of a Gas Station, Car-Care Center, Shoppette Class Six and Taco Johns Restaurant at Keesler Air Force Base, Mississippi.

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Chief, Environmental Flight
81st Civil Engineer Squadron

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DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

MAY 29 2002

MEMORANDUM FOR Federal Emergency Management Agency, Region IV

Attn: Mr. Kenneth O. Burris, Jr., Regional Director
3003 Chamblee Tucker Road
Atlanta GA 30341

FROM: 81 CES/CEV

SUBJECT: Environmental Assessment for the Construction of a Gas Station, Car-Care Center,
Shoppette Class Six and Taco Johns Restaurant at Keesler Air Force Base, Mississippi.

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James J. Chiniche
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Chief, Environmental Flight
81st Civil Engineer Squadron

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AIR EDUCATION AND TRAINING COMMAND

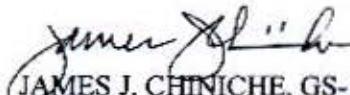
MAY 29 2002

MEMORANDUM FOR DEPARTMENT OF THE ARMY
Corps of Engineers, Mobile District
P O Box 2288
Mobile, Alabama 36628-0001

FROM: 81 CES/CEV

SUBJECT: Environmental Assessment for the Construction of a Gas Station, Car-Care Center, Shoppette Class Six and Taco Johns Restaurant at Keesler Air Force Base, Mississippi.

1. Ecology & Environment, Inc. has been contracted by the US Air Force to prepare an environmental assessment for the proposed construction of the above mentioned facility at Keesler Air Force Base, Mississippi. The Environmental Assessment will be prepared to comply with the National Environmental Policy Act of 1969 (NEPA) and Air Force environmental policy.
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Chief, Environmental Flight
81st Civil Engineer Squadron

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DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

MAY 29 2002

MEMORANDUM FOR Office of Federal Grants

Attn: Cathy Mallette, Dept of Finance and Administration
1301 Wool Folk Blvd, Suite E 501 NW Street
Jackson MS 39201

FROM: 81 CES/CEV

SUBJECT: Environmental Assessment for the Construction of a Gas Station, Car-Care Center,
Shoppette Class Six and Taco Johns Restaurant at Keesler Air Force Base, Mississippi.

1. Ecology & Environment, Inc. has been contracted by the US Air Force to prepare an environmental assessment for the proposed construction of the above mentioned facility at Keesler Air Force Base, Mississippi. The Environmental Assessment will be prepared to comply with the National Environmental Policy Act of 1969 (NEPA) and Air Force environmental policy.
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Chief, Environmental Flight
81st Civil Engineer Squadron

Attachment:
Vicinity Map



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Mississippi Field Office
6578 Dogwood View Parkway, Suite A
Jackson, Mississippi 39213

July 22, 2002

Mr. James J. Chiniche
Chief, Environmental Flight
Department of the Air Force
81 CES/CEV
508 L Street
Keesler AFB, Mississippi 39534-2115

Dear Mr. Chiniche:

The U.S. Fish and Wildlife Service (Service) has reviewed the U.S. Air Force Environmental Assessment (EA) for the construction of a gas station, car-care center, shopette class six, and a Taco Johns restaurant on Keesler Air Force Base, Harrison County, Mississippi. Our comments are submitted in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661-667c) and the Endangered Species Act of 1973 (ESA)(87 Stat. 884, as amended; 16 U.S.C. 1531 et. seq.).

The Service concurs with the determination that the construction projects, if implemented as described in the EA, will have no adverse effect on any federally listed species or Critical Habitats, or wetlands. However, if the proposed plan is modified or additional actions are identified, obligations under Section 7 of the ESA must be reconsidered.

The Service welcomes the opportunity to work with the military in the development and implementation of this EA for Keesler Air Force Base. If you need additional information, please contact Kathy Lunceford in our office, telephone: (601) 321-1132.

Sincerely,

A handwritten signature in cursive ink that reads "Curtis B. James".

Curtis B. James
Federal Projects Team Leader

cc: FWS, Atlanta, GA



**MISSISSIPPI
DEPARTMENT OF MARINE RESOURCES**

August 8, 2002

Mr. George Daniel
81 CES/CEV 508 L Street
Keesler Air Force Base, MS 39534

Re: Proposed Construction of a Gas Station, Car-Care Center, Shoppette and Class Six,
and Taco John's Restaurant at Keesler Air Force Base; DMR-03073

Dear Mr. Daniel:

After reviewing the Environmental Assessment for the Proposed Construction of a Gas Station, Car-Care Center, Shoppette and Class Six, and Taco John's Restaurant at Keesler Air Force Base the Department of Marine Resources (DMR) has determined that no wetlands will be affected. Further, the proposal has been evaluated and has been determined to be consistent with the Mississippi Coastal Program. The DMR has no objections to this project provided that all activities are conducted as outlined in the proposal. Please notify the DMR of any changes to the proposal or if additional information is required of the DMR. Thank you for your cooperation.

If you have any questions regarding this correspondence, please contact Paul Necaise with the Bureau of Wetlands Permitting at (228) 374-5022 extension 5217.

Sincerely,

A handwritten signature in cursive ink that reads "Jerry Brashier".

Jerry Brashier
Director, Bureau of Wetlands Permitting

JB/jdg

cc: Gene Stillman



Mississippi Department of Archives and History

Historic Preservation Division

PO Box 571 • Jackson, MS 39205-0571 • 601 / 359-6940 • Fax 601 / 359-6955 • mdah.state.ms.us

July 24, 2002

Mr. George Daniel
81 CESCEV
508 L Street
Keesler Air Force Base, Mississippi 39534

Dear Mr. Daniel:

RE: Environmental Assessment for the Construction of a Gas Station, Care-Care Center, Shoppette Class Six and Taco John's Restaurant at Keesler Air Force Base, Biloxi, Harrison County

We have reviewed your May 29, 2002, cultural resources assessment request for the above referenced project proposal in accordance with our responsibilities outlined in 36 CFR 800.4 and 800.5 regarding the identification of historic properties and assessment of any potential adverse effects. It is our determination that no properties listed in or eligible for listing in the National Register of Historic Places will be affected. Therefore, we have no reservations with the proposal.

In addition, we are not aware of any potential of this undertaking to affect Indian cultural or religious sites. However, if you require confirmation of this, the tribal entities will have to be contacted directly.

Should there be additional work in connection with the project, or any changes in the scope of work, please let us know in order that we may provide you with appropriate comments in compliance with the above referenced regulations. There remains a very remote possibility that unrecorded cultural resources may be encountered during construction. Should this occur, we would appreciate your contacting us immediately so that we may take appropriate steps under 36 CFR 800, part 13, regarding our response within forty-eight hours. If we can be of further assistance, please do not hesitate to contact this office.

Sincerely,

Elbert R. Hilliard
State Historic Preservation Officer

Thomas H. Waggener

By: Thomas H. Waggener
Review and Compliance Officer

cc: Clearinghouse for Federal Programs
Mr. Stillman



DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, ALABAMA 36628-0001

REPLY TO
ATTENTION OF

CESAM-PD-EC

2 August 2002

MEMORANDUM FOR Chief, Environmental Flight, 81st Civil Engineer Squadron,
ATTN: Mr. George Daniel, 81 CES/CEV, 508 L Street, Keesler Air Force Base,
Mississippi 39534

SUBJECT: Draft Environmental Assessment (EA) for the Construction of a Gas Station, Car-Care Center, Shoppette Class Six and Taco Johns Restaurant at Keesler Air Force Base, Mississippi

1. The subject document was reviewed as requested. The following comments are provided below.
2. Figure 3-2 in the document should be updated to show the reconfigured marina and additional structures. In section 4.2.8, Cultural Resources, documentation should be added to show coordination with the State Historic Preservation Officer. On page 4-9 the heading *Environmental Justice for Children* should be changed to read *Protection of Children*.
3. If you have any questions concerning our comments or need further assistance please call Mr. Joe Hand at 251/694-3881. We hope these comments are helpful in finalizing your document.

FOR THE COMMANDER:

SUSAN IVESTER REES, Ph.D.
Leader, Coastal Environment Team

CF: Mr. Gene Stillman
Ecology & Environment, Inc.
1950 Commonwealth Lane
Tallahassee, Florida 32303

Stillman, Gene

From: Noble Lisa A Civ 81 CES/CEV [Lisa.Noble@keesler.af.mil]
Sent: Tuesday, September 03, 2002 3:05 PM
To: 'Stillman, Gene'
Subject: FW: FW: DOPAA/AAFES Project



Keesler DOPAA.pdf

-----Original Message-----

From: Pope.Robert@epamail.epa.gov [mailto:Pope.Robert@epamail.epa.gov]
Sent: Tuesday, September 03, 2002 9:06 AM
To: Noble Lisa A Civ 81 CES/CEV
Cc: 'MDEQ Bob Merrill'; Daniel George W Civ 81 CES/CEV; Chiniche James J Civ 81 CES/CEV
Subject: Re: FW: DOPAA/AAFES Project

Hi,

I apologize for taking so long to get to this. I concur with the action as presented. Based on the information provided, the new construction will not impact AOC A as active remediation is no longer being pursued at the site. However, it is important that the existing monitoring wells be left in place. Although unlikely, it should also be considered that additional monitoring wells may need to be installed and allowances should be made for that to be done, as necessary.
Thanks,

Robert H. Pope
USEPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404)562-8506
pope.robert@epa.gov

-----Noble Lisa A Civ 81 CES/CEV <Lisa.Noble@keesler.af.mil> wrote: -----

To: Robert Pope/R4/USEPA/US@EPA, 'MDEQ Bob Merrill' <Bob_Merrill@deq.state.ms.us>
From: Noble Lisa A Civ 81 CES/CEV <Lisa.Noble@keesler.af.mil>
Date: 08/19/2002 05:06PM
cc: Daniel George W Civ 81 CES/CEV <George.Daniel@keesler.af.mil>, Chiniche James J Civ 81 CES/CEV <James.Chiniche@keesler.af.mil>
Subject: FW: DOPAA/AAFES Project

Rob and Bob,
Attached is the Decision of Proposed Actions and Alternatives for the AAFES gas station. This is the project which I briefed during our last Tier I meeting. Our Natural/Cultural Resource Manager, George Daniel, would like to get your concurrence with this project since AETC requires a waiver for construction within 100 feet of an IRP site. Let me know if you have any questions.

Thanks,
Lisa Noble

>
>
>

>
> <<Keesler DOPAA.pdf>>
>
>
> George Daniel DSN 597-5823
> 81 CE/CEVC
> Nat / Cul Resource Manager
>

CD Open
CC AF 10/24/02
CEV

STATE OF MISSISSIPPI
DAVID RONALD MUSCROVE, GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
CHARLES H. CHISOLM, EXECUTIVE DIRECTOR

4 September 2002

David W. Funk, Lt. Colonel, USAF
Base Civil Engineer
508 L Street, Room 1
Keesler Air Force Base, MS 39534-2115

Re: Description of the Proposed Action and Alternatives for Construction of AAFES Facility at Keesler Air Force Base, Mississippi, Draft, May 2002.

This document addresses a plan for new construction at AOC A. No active remediation is planned for the site in the future so construction would not affect remedial activities. The proposed action is therefore approved.

Groundwater sampling should continue at the site and all existing wells should remain intact. Sampling should include all wells associated with the site (including portions regulated under both the IRP and UST programs).

The preferred alternative (Alternative 2) should be evaluated on Table 2-2 (page 2-6) as shown for the no action alternative (Alternative 6). A hard copy of the document should be supplied so it can be filed for public availability.

Please feel free to contact me if I can be of further assistance.

Sincerely,
Bob Merrill
Bob Merrill

cc. Rob Pope, USEPA
Mark Taylor, MDEQ



STATE OF MISSISSIPPI
DAVID RONALD MUSGROVE, GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
CHARLES H. CHISOLM, EXECUTIVE DIRECTOR

September 5, 2002

Keesler Air Force Base
Attention: Mr. George Daniels and Mr. Jim Chiniche
81 CES/CEV
508 "L" St.
Keesler AFB, Mississippi 39534-2115

**RE: Environmental Assessment for Report the proposed construction of a Gas Station, Car-Care Center, Shoppette and Taco John's Restaurant to replace the existing (Facility 1504) AAFES Gas Station
Keesler AFB, Mississippi
Facility I. D. # 7619**

The Underground Storage Tank Branch of the Office of Pollution Control (OPC) has reviewed Ecology and Environment, Inc. June 2002, Environmental Assessment Report for the proposed construction of the Gas Station, Car-Care Center, Shoppette and the Taco John's Restraunt to replace the existing (Facility1504) AAFES Gas Station.

The UST Branch only has one issue, please insure the monitoring wells are not damaged or destroyed during the construction activities at the site. Also, if new UST's are installed at the site or modifications are made to the existing UST's, please insure an amended notification form is submitted to our office.

We appreciate your cooperation and assistance in this matter. Should you have any questions or comments, please do not hesitate to contact us at 916-5186.

Sincerely,

Mark Taylor
UST Branch

cc: Gene Stillman, Ecology and Environment, Inc. — THIS COPY FOR
Martha Martin, OPC



STATE OF MISSISSIPPI
DEPARTMENT OF FINANCE AND ADMINISTRATION

MEMORANDUM

KEESLER AIR FORCE BASE
TO: 508 L STREET
KEESLER AFB MS 39534 2115

DATE: AUG 27 2002

FROM: STATE CLEARINGHOUSE FOR FEDERAL PROGRAMS

SUBJECT: REVIEW COMMENTS - Activity:
ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED CONSTRUCTION OF A
GAS STATION, CAR-CARE CENTER, SHOPPETTE AND CLASS SIX, AND
TACO JOHN'S RESTAURANT AT KEESLER AIR FORCE BASE, BILOXI,
HARRISON COUNTY, MISSISSIPPI.

State Application Identifier Number

MS020813-003

Location: HARRISON

Contact: MR. STILLMAN

The State Clearinghouse, in cooperation with state agencies interested or possibly affected, has completed the review process for the activity described above.

~~INTERGOVERNMENTAL REVIEW PROCESS COMPLIANCE:~~

- () We are enclosing the comments received from the state agencies for your consideration and appropriate actions. The remaining agencies involved in the review did not have comments or recommendations to offer at this time. A copy of this letter is to be attached to the application as evidence of compliance with Executive Order 12372 review requirements.
- () Conditional clearance pending Archives and History's approval.
- () None of the state agencies involved in the review had comments or recommendations to offer at this time. This concludes the State Clearinghouse review, and we encourage appropriate action as soon as possible. A copy of this letter is to be attached to the application as evidence of compliance with Executive Order 12372 review requirements.
- () The review of this activity is being extended for a period not to exceed 60 days from the receipt of notification to allow adequate time for review.

~~COASTAL PROGRAM COMPLIANCE (Coastal area activities only):~~

- () The activity has been reviewed and complies with the Mississippi Coastal Program. A consistency certification is to be issued by the Mississippi Department of Marine Resources in accordance with the Coastal Zone Management Act.
- () The activity has been reviewed and does not comply with the Mississippi Coastal Program.

cc: Funding Agency (As requested by applicant)



Mississippi Department of Archives and History

Historic Preservation Division

PO Box 571 • Jackson, MS 39205-0571 • 601 / 359-6940 • Fax 601 / 359-6955 • mdah.state.ms.us

June 20, 2002

Mr. George Daniel
81 CES/CEV
508 L Street
Keesler AFB, Mississippi 39534

Dear Mr. Daniel:

RE: Proposed capital improvements at Keesler Air Force Base, Harrison County

We have reviewed your June 14, 2002, cultural resources assessment request for the above referenced project proposal in accordance with our responsibilities outlined in 36 CFR 800.4 and 800.5 regarding the identification of historic properties and assessment of any potential adverse effects. It is our determination that no properties listed in or eligible for listing in the National Register of Historic Places will be affected. Therefore, we have no reservations with the proposal.

In addition, we are not aware of any potential of this undertaking to affect Indian cultural or religious sites. However, if you require confirmation of this, the tribal entities will have to be contacted directly.

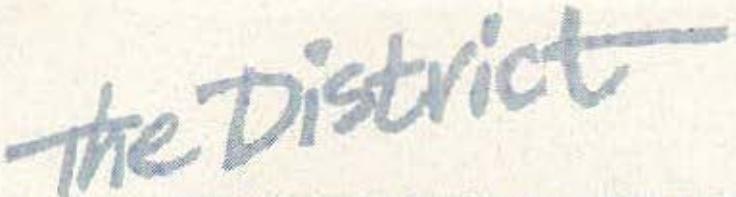
Should there be additional work in connection with the project, or any changes in the scope of work, please let us know in order that we may provide you with appropriate comments in compliance with the above referenced regulations. There remains a very remote possibility that unrecorded cultural resources may be encountered during construction. Should this occur, we would appreciate your contacting us immediately so that we may take appropriate steps under 36 CFR 800, part 13, regarding our response within forty-eight hours. If we can be of further assistance, please do not hesitate to contact this office.

Sincerely,

Elbert R. Hilliard
State Historic Preservation Officer

By: Thomas H. Waggener
Review and Compliance Officer

cc: Clearinghouse for Federal Programs



SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT • 9229 HIGHWAY 49 GULFPORT, MISSISSIPPI 39503 • (228) 868-2311 FAX (228) 868-7094

August 30, 2002

Mr. Stillman
Keesler Air Force Base
508 L Street
Keesler AFB, MS 39534-2115

RE: Environmental Assessment for Proposed Construction of Public Buildings

Dear Mr. Stillman:

I have enclosed the Review and Comments from the Southern Mississippi Planning and Development District Regional Clearinghouse for Federal Programs regarding your application for the work stated above. This project will be located in Harrison County.

If you require further information concerning the regional review, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads "Sheila Tirrell".

Sheila Tirrell
Clearinghouse Coordinator

Attachment

cc. Cathy Mallette
Clearinghouse Officer
Department of Finance and Administration
501 North West Street
1301 Woolfolk Building, Suite E
Jackson, MS 39201

SOUTHERN MISSISSIPPI PLANNING AND DEVELOPMENT DISTRICT
REGIONAL CLEARINGHOUSE FOR FEDERAL PROGRAMS
REVIEW AND COMMENTS

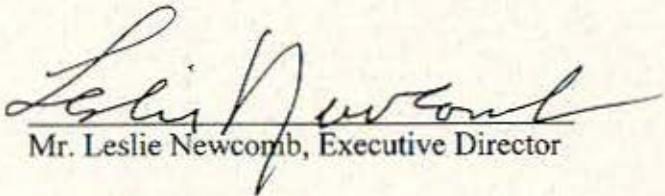
August 30, 2002

Mr. Stillman
Keesler Air Force Base
508 L Street
Keesler AFB, MS 39534-2115

Project Description: Environmental Assessment for Proposed Construction of Public Buildings

- (X) 1. The Regional Clearinghouse has received notification of intent to apply for Federal assistance as described above.
- (X) 2. The Regional Clearinghouse has reviewed the application(s) for Federal assistance described above.
- () 3. The Regional Clearinghouse has notified the appropriate metropolitan, local, and regional organizations and is awaiting notification of their interest on the project.
- () 4. After proper notification, no local or regional agency (or other appropriate organization) has expressed an interest in conferring with the applicant(s) or commenting on the proposed project.
- (X) 5. The proposed project is (X) consistent () inconsistent with the Overall Economic Development Plan for the Southern Mississippi Planning and Development District.
- () 6. Although a _____ plan does not presently exist for _____, the proposed project appears to be () consistent () inconsistent with the regional goals and objectives.
- (X) 7. This notice constitutes FINAL REGIONAL CLEARINGHOUSE REVIEW AND COMMENT. The requirements of FEDERAL EXECUTIVE ORDER NO. 12372 AND THE STATE OF MISSISSIPPI EXECUTIVE ORDER NO. 486 have been met at the Regional level.

COMMENTS: This project is consistent with the policies and objectives of the Southern Mississippi Planning and Development District.



Mr. Leslie Newcomb, Executive Director

cc. Cathy Mallette

B

Site Photographs

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Photograph 1: Alternative Site 3. View looking west down Meadows Drive toward front of existing shoppette and class six.



Photograph 2: Site of bowling alley parking lot expansion. View looking north across "G" Street from rear of existing AAFES gas station facility.



Photograph 3: Alternative Site 2. View from front of AAFES gas station looking east toward the intersection of Meadows Drive and Larcher Avenue.



Photograph 4 - Alternative Site 2. View of rear of AAFES gas station facility.



Photograph 5: Alternative Site 4. View from "J" Street looking southwest toward fisher house.



Photograph 6: Alternative Site 4. View from northwest corner of site looking toward children's daycare facility.

C

Land Use Control Implementation Plan

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Land Use Control Implementation Plan

IRP SITE DESIGNATION

BX Service Station USTs: IRP Site Code ST-06, RCRA Site Code AOC A.

SITE LOCATION

Keesler Air Force Base (AFB) is located within the city limits of Biloxi, Harrison County, Mississippi, approximately 80 miles east of New Orleans, Louisiana and 60 miles west of Mobile, Alabama. The BX Service Station (Area of Concern A) is located near the center of Keesler AFB at the corner of Larcher Boulevard and Meadows Drive.

SITE DESCRIPTION

AOC A is an active service station and includes service bays and pump islands. Underground storage tanks (USTs) containing gasoline and diesel fuel are located at the western portion of the site. These tanks currently meet federally mandated upgrade requirements for UST systems and have not leaked. In 1987, 10 USTs used to store automotive gasoline were removed from the site. Six of the tanks were located along the eastern side of Building 1504, and four were located just south of the building. Physical evidence, such as stained soils and high organic vapor readings, observed during the excavation showed that one or more of the tanks had leaked in the past. Groundwater flow across the site is to the east.

Additional information on AOC A can be found in the RCRA Facility Investigation Report for the Group 1 Sites (Parsons, April 1999) and the Statement of Basis for AOC A, (Parsons, October 1999). These documents are available in the Keesler AFB Administrative Record and Information Repository.

LAND USE CONTROL OBJECTIVES

The recommended corrective action for AOC A included natural attenuation with long-term groundwater monitoring and land use controls. Investigations and studies conducted at the site indicate that potential risks do exist to receptors. Long-term monitoring of groundwater will be conducted and evaluated annually until contaminant concentrations drop below corrective action objectives or until the USEPA and MDEQ decide the sampling interval can be extended or it is no longer necessary to continue. Nine wells will be sampled annually. An additional five wells at adjacent site Facility 1504 (AAFES Service Station) will be sampled concurrently with the wells at AOC A. The samples will be analyzed for benzene, ethylbenzene, toluene, xylenes, and methyl-tertiary-butylether (MTBE). In addition, natural attenuation parameters will be evaluated to determine the biodegradation potential of the aquifer. The Project Plan for Long-

Term Monitoring for AOC A (Parsons, September 1999) contains the details of the required monitoring.

The purpose of establishing LUCs for AOC A is to ensure that the corrective measures are protective of human health and the environment. The human health risk assessment conducted for this site determined that subsurface soil and groundwater pose a potential risk to future industrial workers. Therefore, current and future use of the property will be restricted and residential development will not be allowed without further corrective action to reduce or eliminate the potential risks. Groundwater withdrawal or use will not be allowed within the boundaries of or near the site. The area affected by the LUCs is shown on [Figure 1](#). The area of restricted shallow groundwater use is shown on [Figure 2](#). This LUCIP also serves as a Corrective Measures Implementation Plan (CMIP), as required to implement a remedy, pursuant to RCRA.

LAND USE CONTROL IMPLEMENTATION TO ACHIEVE OBJECTIVES

By separate Memorandum of Agreement (MOA) dated August 15, 2000, USEPA and Keesler AFB, on behalf of the Department of the Air Force, agreed to implement basewide, certain periodic site inspections, condition certification, and agency notification procedures designed to ensure the maintenance by Keesler AFB personnel of any site specific LUCs deemed necessary for future protection of human health and the environment. In addition to the LUCs, long-term monitoring of groundwater will be implemented.

The Environmental Restoration Program Manager (ERPM) will be responsible for implementing and maintaining the LUCs and this LUCIP will be referenced in appropriate Keesler AFB basewide planning documents. The LUCs established for AOC A are listed below and the implementation and maintenance procedures are described in detail in the following section of this document.

- The property is restricted from residential use or development. Any change in land use from the Base Service Station shall be approved by USEPA and MDEQ before implementation.
- The shallow aquifer under or near the site shall not be used as a water supply source for any use: potable, industrial, or irrigation.
- Digging into the land surface and soil removal are prohibited without approval of the ERPM.
- No additional structures shall be built on the site without prior notification and approval of the ERPM.
- Maintenance or replacement of existing underground utilities in the same or new locations on the site is restricted without notification and approval of the ERPM.

DOCUMENTING AND MAINTAINING LAND USE CONTROLS

- For major land use changes, written requests will be submitted to USEPA in accordance with the mutually approved LUCAP. Requests will be submitted as soon as a major land use change is anticipated, to allow 90 days for regulatory review and review of remedy selection decision documents.
- The site will be inspected on an annual basis to ensure that unauthorized use does not occur and that the status of the site is unchanged. The AOC A Land Use Controls Annual Inspection Checklist is included as **Attachment A**. The Air Force will submit an annual site status report to USEPA in accordance with the LUCAP. The Air Force will notify USEPA upon the discovery of any unauthorized change in land use.
- These LUCs will be documented in the Keesler AFB Basewide Comprehensive Plan on an annual basis.
- AOC A, as referenced in the LUCs detailed above, is the area shown on **Figure 1**.

RECURRENT REVIEW OF LAND USE CONTROLS

Revalidation of LUCs will be conducted every five years to determine if it is appropriate to amend or remove them. At each revalidation, Keesler AFB will evaluate whether site conditions warrant LUC removal or amendment consideration. If so, requirements for any assessment activities based on risk consideration will be evaluated by Keesler AFB and USEPA. A revalidation request report will be prepared by Keesler AFB and submitted to USEPA.

MAJOR LAND USE CHANGE EVALUATION

To be considered for a land use change, reassessment of corrective actions for AOC A will be conducted by Keesler AFB as part of the RCRA Permit. Additional investigations and studies may be required to evaluate any proposed changes.

DECISION DOCUMENTS

The recommendations from the Statement of Basis for AOC A dated December 1999 were natural attenuation with long-term groundwater monitoring and land use controls. This SB was open for public comment from January 13 to February 26, 2000. The SB was approved in April 2000.

Figure 1
Area of Concern A
Land Use Restrictions Area

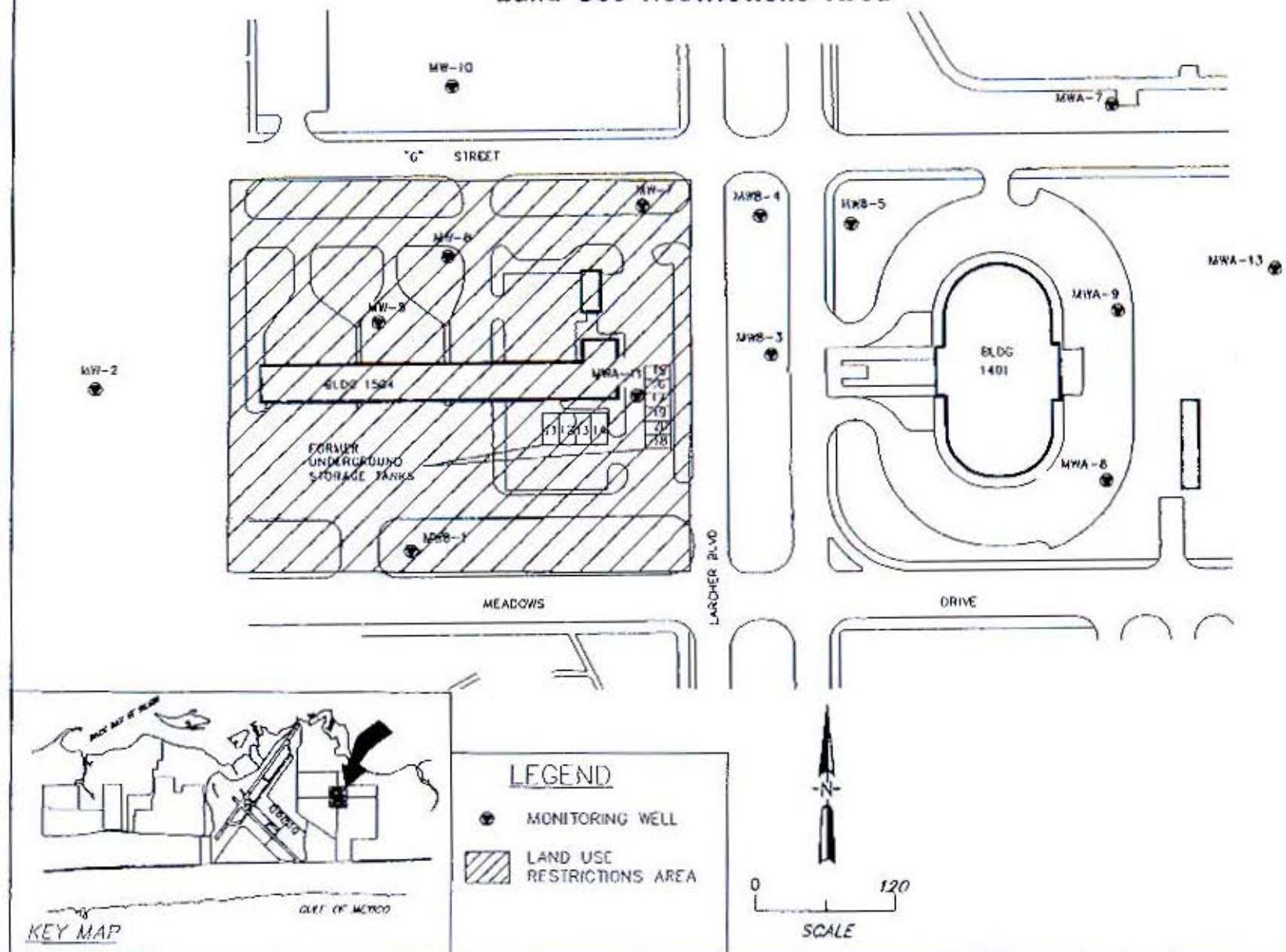
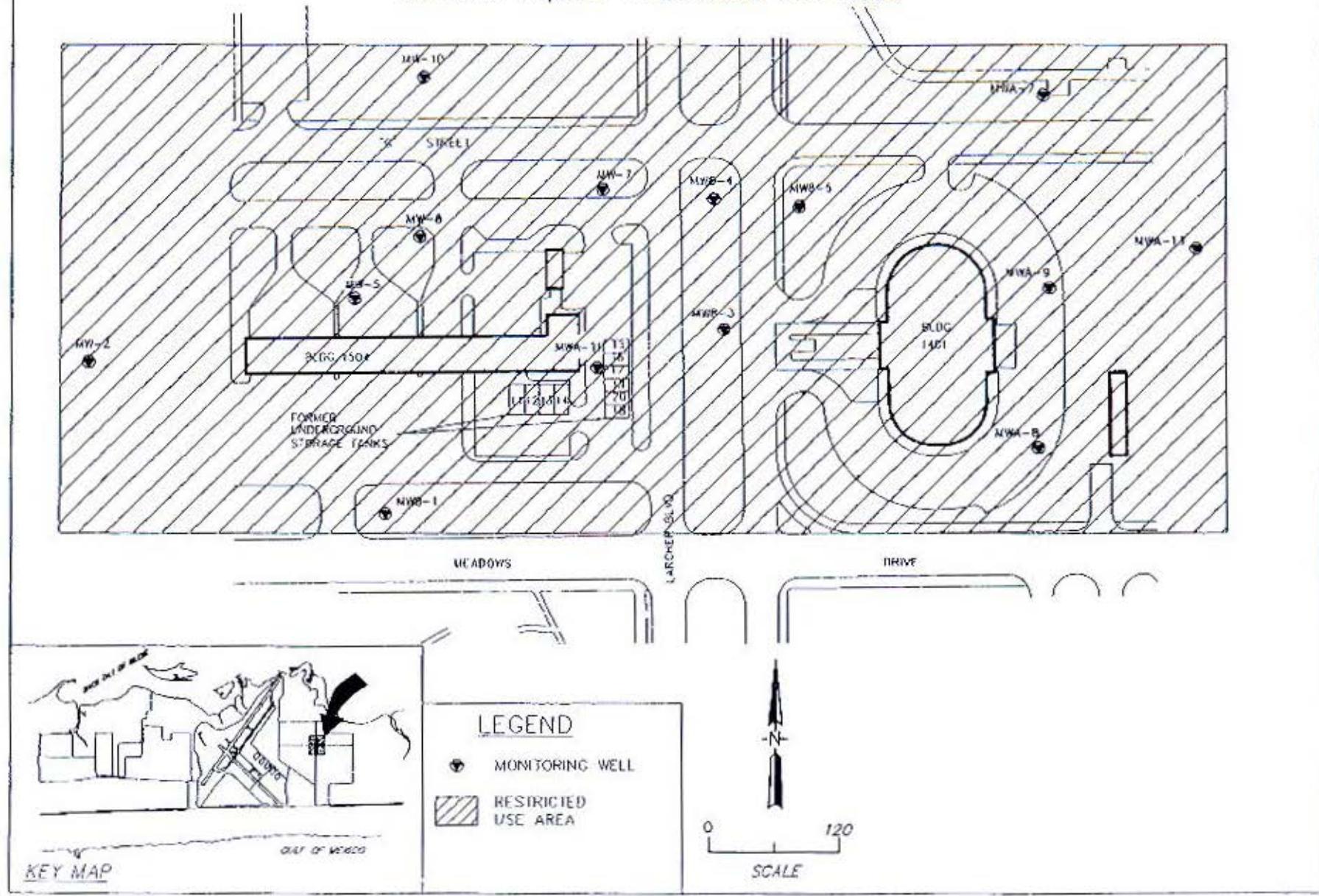


Figure 2
Area of Concern A
Shallow Aquifer Restricted Use Area



D

Waiver Request

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MEMORANDUM FOR HQ AETC/CE

FROM: 81 CES/CE
508 L Street
Keesler AFB MS 39534-2115

SUBJECT: FY03 AAFES Shoppette/Car Care Center Installation Restoration Program (IRP) Waiver Request

1. In accordance with your 26 Feb 01 policy letter we request a waiver to construct a AAFES Shoppette/Car Care Center in a part of the existing IRP site, BX Service Station UST, ST-06, Area of Concern (AOC) A. Along with AOC A, hydrocarbon contamination associated with Facility 1504, AAFES Service Station, exist on the site as well. Attached is a drawing for AOC A and Facility 1505 with the location of the proposed construction.
2. The proposed project will construct a 24,600 square foot AAFES combined shoppette and car care center. Included within the facility will be a fast food restaurant. The proposed construction will also include twelve fuel dispensers and 3 new underground, 50,000 liter above or underground storage tanks. Three 20,000-gallon underground storage tanks along with seven fuel dispensers and Facility 1504 will be removed/demolished.
3. The AAFES service station is currently active and includes service bays and pump islands. Two investigations are underway at this site, an IRP Site and a Compliance UST site. The two sites have ccmmingled hydrocarbon plumes. AOC A (ST-6) is an IRP site. In 1987, ten abandoned USTs were removed which were used to store automotive gasoline. Six of the tanks were located along the eastern side of Bldg 1504, and four were located just south of the building. Soil samples were collected and analyzed for TPH and inorganic extraction procedure toxicity. Analysis of a soil gas survey collected in the former UST area indicated a hydrocarbon anomaly adjacent to the east-northeast side of the service station. Since 1987, investigations have continued at this site. Soil and groundwater analytical results from the 1999 RCRA Facility Investigation (RFI) were used to evaluate human health risks associated with exposure to contaminants in the affected media. The Corrective Action identified in the Statement of Basis, Dec 1999, was selected from the RFI report (Apr 1999) and the Corrective Action Plan (Apr 1999). For groundwater, the selected remedial alternative consists of natural attenuation and long-term monitoring with land-use controls. Soil remediation consists of natural biodegradation processes. Land use controls prevent future development of the site and also prevent the usage of site groundwater by potential human receptors. Annual reporting of the groundwater sampling results, site status, and Land Use Controls Implementation Plan (LUCIP) are required to US EPA Region 4.

In 1995, five USTs were removed and the three current USTs were installed at the western part of Bldg 1504. This site does not meet IRP requirements. BTEX concentrations were observed in soil and water samples collected during excavation activities. Long-term monitoring of groundwater has been conducted annually since 1998. During the June 2001 sampling event, total BTEX concentrations continue to exceed Mississippi Department of Environmental Quality (MDEQ) cleanup levels. The report recommended annual sampling for BTEX, MTBE, and natural attenuation parameters to continue through year 2003. Once total BTEX concentrations fall below MDEQ cleanup level for three consecutive sampling events, then the plume is considered stable or reducing in size and a recommendation of no further action will be proposed to MDEQ. IF BTEX concentrations continue to increase, then the need for corrective actions will be addressed.

4. The impact of the construction on this site is dependent of the extent of underground activity required from proposed actions. Any construction at this site could impact current monitoring programs. Presently, 14 groundwater-monitoring wells are sampled annually and reported to US EPA Region 4 and MDEQ. Construction at this site could destroy active groundwater monitoring wells. Any change in present land use from the base service station shall be approved by USEPA and MDEQ. A reassessment of corrective actions are required as part of the RCRA permit. Additional investigations and studies may be required to evaluate proposed changes. The current proposal constructs a new service station with a 12 island pumps, new USTs, a shoppette and fast food facility. Any construction in the restricted area requires an approved Health and Safety plan, Hazard Waste Operation and Emergency Responder (40-hour) trained personnel with a Health and Safety Officer monitoring vapor during excavation. All soils and groundwater excavated from the site will require analysis and proper disposal. Groundwater is usually encountered in depths around 5 ft. Therefore, a large volume of water potentially will have to be captured and analyzed during excavation of USTs, trenching, and possible foundation construction.

5. US EPA Region 4 was verbally notified of this project in Apr 2001. Since we have not received a finalized conceptual design and cannot determine final impacts, we have not officially informed the regulators.

6. The only other site available for this construction is located at the existing Shoppette location. However, the existing Shoppette building will be used to house the wing's Thrift Shop, which is located in an existing condition code 3, World War II facility. Furthermore, the potential impacts on the current gas station site if the Shoppette could be demolished, would not be substantially diminished, due to the fact that all of the demolishing work would still be required at the current station site.

7. The construction contractor will be required to store, analyze and dispose of all contamination soil and all groundwater throughout the construction process.

8. The environmental assessment for this construction is on going and expected to be completed in Sep 02.
9. If you have any questions our point of contact is Mrs. Lisa Noble, DSN 597-8255.

3 Attachments:

1. Preliminary Site Plan/AOC A
2. Statement of Basis – AOC A
3. Land Use Control Implementation Plan – AOC A

**DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND**

MEMORANDUM FOR HQ AETC/CE

23 AUG 02

FROM: 81 CES/CC
508 L Street
Keesler AFB MS 39534-2115

SUBJECT: FY03 AAFES Shopette/Car Center Installation Restoration Program (IRP) Waiver Request (Your Memo, 24 Jun 02)

1. Request a reevaluation of the waiver request. The following information is in response to your subject letter:

a. The Restoration Program Manager (RPM) will notify the Restoration Advisory Board (RAB) on this project and its resultant minimal impacts during the next RAB meeting, tentatively scheduled for 15 Dec 02.

b. Any construction in the restricted area will have an approved Health and Safety Plan. All personnel working in the area will be Hazardous Waste Operation and Emergency Responder (40 hour) certified and a Health and Safety Officer will monitor vapor during excavation. All soils and groundwater excavated from the site will be analyzed for proper disposal. The RPM will monitor all construction activities at this IRP site. Operation and Maintenance funds have been programmed to adequately cover cost for demolition, including environmental cost associated with demolition. Project MAHG031012, Demolish AAFES Gas Station, with an estimated cost of \$203,000 has been submitted for consideration in the FY03 demo program. All environmental requirements will be included in the construction documents.

c. The Natural/Cultural Resource Manager, Mr George Daniel, is involved in the NEPA actions. The Environmental Assessment (EA) is under contract with Ecology Environmental, Inc; it has an ECD of 15 Oct 02.

d. Several additional sites were reviewed and evaluated in the draft EA. We did not consider the existing Keesler Community Center site, because there exists no other suitable facility on base to relocate the current occupants into. The 81 TRW/CC would not consider tearing down this facility until a suitable replacement was found.

e. The RPM will provide information detailing investigation history, risk, locations of groundwater monitoring wells, and land use controls to contractors. The RPM will be notified if any groundwater monitoring wells are damaged or destroyed and they will be repaired or replaced.

f. The Restoration Tier I team, consisting of Mississippi Department of Environmental Quality and US EPA Region 4, were briefed on this project during the 6-7 Aug 02 meeting. Written notification, permit and plan updates will be performed as required and in a timely manner.

2. We are confident that we can meet all environmental requirements to construct a new AAFES service station at this location. If your staff requires further information, our POC is Ms. Lisa Noble at DSN 487-8255.

v/r


DAVID W. FUNK, Lt Col, USAF
Commander
81st Civil Engineer Squadron

DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMANDDale
SEP 13 2002

MEMORANDUM FOR 81 CES/OC

FROM: HQ AETC/CE
266 F Street West
Randolph AFB TX 78150-4319

SUBJECT: FY03 AAFES Shopette/Car Center Installation Restoration Program (IRP) Waiver Request (Your Memo, 23 Aug 02)

1. HQ AETC/CE has reevaluated your revised waiver request to construct an AAFES Shopette and Car Care Center on IRP Site ST06 on Keesler AFB. Based upon this additional information, we approve your waiver request consistent with the actions specified with your 23 Aug 02 memorandum.
2. We appreciate your attention to additional actions and information requested in our initial disapproval memorandum of 24 Jun 02. If you have any questions related to this waiver review, please contact our POC, Mr. Robert J. Backlund, P.E., HQ AETC/CEVR, DSN 487-3302.

PAUL A. PARKER
Deputy Civil Engineer

Attachment:
Your Memo, 23 Aug 02

CC:
HQ AETC/CEC/CEP/CEVN/CEVQ/JAV

E

Human Health Risk Assessment Data and Summary Tables

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Table 15.1
AOC A Subsurface Soil Statistical Summary (1-9.5 ft)

Class	Analyte	CAS No.	Freq of Detect	Units	Min Detect	Max Detect	Mean	95% UCL	EPC
Volatile	BENZENE	71-43-2	3 / 18	mg/kg	1.80E-01	1.60E+00	6.26E+00	1.32E+01	1.60E+00
	TOLUENE	108-88-3	6 / 18	mg/kg	4.10E-02	7.60E+02	7.05E+01	1.55E+02	1.55E+02
	ETHYLBENZENE	100-41-4	2 / 18	mg/kg	1.40E+00	5.60E+00	1.30E+01	2.71E+01	5.60E+00
	TOTAL XYLENES	1330-20-7	4 / 18	mg/kg	5.20E+00	7.90E+02	8.56E+01	1.82E+02	7.90E+02
	TPH GASOLINE	NA	10 / 18	mg/kg	2.10E+02	1.70E+07	1.96E+06	4.13E+06	4.13E+06

Notes:

MDC = maximum detected concentration.

Data were assumed to be normally distributed.

Exposure point concentrations (EPC):

For greater than 25% detects - The lesser of the 95%UCL and the MDC = EPC.

For less than or equal to 25% detects - The MDC = EPC.

Table 15.2
AOC A Groundwater Statistical Summary⁽¹⁾

Class	Analyte	CAS No.	Freq of Detect	Units	Min Detect	Max Detect	Mean
Volatiles	BENZENE	71-43-2	6 / 14	mg/l	5.90E-02	6.00E+00	5.74E-01
	TOLUENE	108-88-3	6 / 14	mg/l	4.00E-03	8.50E+00	8.56E-01
	ETHYLBENZENE	100-41-4	7 / 14	mg/l	8.00E-03	1.40E+00	1.60E-01
	TOTAL XYLEMES	1330-20-7	7 / 14	mg/l	4.00E-03	5.80E+00	6.76E-01
	TPH GASOLINE	NA	6 / 14	mg/l	6.20E+01	4.70E+03	4.70E+03
Semi-Volatiles	ACENAPHTHENE	83-32-9	2 / 14	mg/l	1.00E-03	1.00E-03	1.00E-03
	BIS(2-ETHYLIEXYL)PHthalATE	117-81-7	1 / 14	mg/l	1.20E-02	1.20E-02	6.00E-03
	2,4-DIMETHYLPHENOL	65-67-9	2 / 14	mg/l	2.00E-03	1.10E-02	7.00E-03
	2,6-DINITROTOLUENE	606-20-2	1 / 14	mg/l	5.00E-03	5.00E-03	5.00E-03
	2-METHYLNAPHTHALENE	91-57-6	3 / 14	mg/l	4.30E-02	9.40E-02	1.80E-02
	4-METHYLPHENOL	106-44-5	3 / 14	mg/l	9.00E-03	4.90E-02	9.00E-03
	NAPHTHALENE	91-20-3	4 / 14	mg/l	7.00E-03	3.20E-01	4.00E-02
	PHENOL	108-95-2	3 / 14	mg/l	2.00E-03	2.70E-02	8.00E-03

(1) The maximum detected concentration in groundwater was used as the exposure point concentration.

Table 15.3 AOC A Matrix of Potential Human Exposure Pathways

Transport Medium	Source/Mechanism for Release	Potential Exposure Points	Potential Receptor(s)	Primary Route(s) of Exposure	Probability of Pathway Completion
Current Pathways					
Soil	Waste contaminated soils/leaching, tracking, fugitive dust generation	Onsite	Station workers	Oral, dermal	None: Contamination exists in subsurface soil; however, the site is currently paved.
Air	Volatilization from soils, fugitive dust generation	Onsite and nearby areas	Station workers	Inhalation	None: Detected levels of contaminants are not expected to volatilize to detectable concentrations.
Groundwater	Contaminated soils/leaching	Drinking water and irrigation wells screened in the surficial aquifer onsite or downgradient of site	Station workers and nearby residents	Oral, dermal, inhalation	None: No potable wells are screened in the surficial aquifer onsite or downgradient of site. Deeper wells are protected from receiving contaminants by clay layers and natural attenuation.
Surface Water	Contaminated soils, groundwater seepage surface runoff	Surface water runoff from site, nearby surface water bodies	Station workers, nearby residents, visitors	Oral, dermal	None: Surface water does not exist onsite, soils are permeable and runoff is not expected to occur.
Hypothetical Future Pathways					
Soil	Waste contaminated soils/leaching, tracking, fugitive dust generation	Onsite	Station workers and hypothetical (future) residents	Oral, dermal	Moderate: Exposure to subsurface soils may result from future site excavation. Current remediation of soils, however, will likely remove contaminants.
Air	Volatilization from soils, fugitive dust generation	Onsite and nearby areas	Station workers and hypothetical (future) residents	Inhalation	Moderate: Future excavation may result in exposure to subsurface soils. Current remediation of soil, however, will likely remove contaminants.
Groundwater	Contaminated soils/leaching	Drinking water and irrigation wells screened in the surficial aquifer onsite or downgradient of site	Station workers and hypothetical (future) residents	Oral, dermal, inhalation	Very Low: Contaminants detected in groundwater, however, surficial aquifer contains groundwater of generally poor quality and is not a likely future domestic water supply.
Surface Water	Contaminated soils, groundwater seepage surface runoff	Surface water runoff from site, nearby surface water bodies	Station workers and hypothetical (future) residents	Oral, dermal	None: Surface water does not exist onsite.

Table 15.4
Subsurface Soil (1-9.5 ft) Screening Against Human Health RBCs⁽¹⁾
and Background
AOC A

Constituent	EPA Region III ⁽²⁾ Risk-Based Concentration for Soil - Residential	Subsurface Soil (1-9.5 ft)				
		Maximum Detected Concentration	2X Mean ⁽³⁾ Background	Retained as COPC ⁽⁴⁾ Y/N	Criteria for Exclusion as COPC	
Chemical - units in mg/kg						
Volatiles						
Benzene	2.20E+01	1.60E+00	NA	N	RBC	
Ethylbenzene	7.80E+02	5.60E+00	NA	N	RBC	
Toluene	1.60E+03	7.60E+02	NA	N	RBC	
Total Xylenes	1.60E+04	7.90E+02	NA	N	RBC	
TPH Gasoline	NR	1.70E+07	NA	Y	-	

Notes:

NR No RBC value for this analyte.

NA Background data not available.

ND Not detected.

note: Sample size less than 20. Data not evaluated for frequency of detection criteria.

(1) RBC = Risk Based Concentration. Comparisons were performed using the following criteria: cancer risk of 1E-06 and Hazard Index of 0.1.

(2) EPA 1997a, Risk-Based Concentration Table

(3) Background screening only applies to inorganic analytes.

(4) COPC = Chemical of Potential Concern; analyte was retained if the maximum concentration exceeded the RBC, if an RBC was not available, or if the maximum concentration exceeded 2X the background mean (for inorganics only).

Table 15.5
Groundwater Screening Against Human Health RBCs⁽¹⁾ and Background
AOC A

Constituent	EPA Region III ⁽²⁾ Risk-Based Concentration for Tap water - Residential	Groundwater				
		Maximum Detected Concentration	2 X Mean ⁽³⁾ Background	Retained as COPC ⁽⁴⁾ Y/N	Criteria for Exclusion as COPC	
Chemical - units in mg/L						
Volatiles						
Benzene	3.60E-04	6.00E+00	ND	Y	--	
Ethylbenzene	1.30E-01	1.40E+00	ND	Y	--	
Toluene	7.50E-02	8.50E+00	ND	Y	--	
Total Xylenes	1.20E+00	5.80E+00	ND	Y	--	
TPH Gasoline	NR	4.70E+03	ND	Y	--	
Semi-Volatiles						
Acenaphthene	2.20E-01	1.00E-03	ND	N	RBC	
Bis(2-ethylhexyl)phthalate	4.80E-03	1.20E-02	1.20E-02	Y	--	
2,4-Dimethylphenol	7.30E-02	1.10E-02	ND	N	RBC	
2,6-Dinitrotoluene	3.70E-03	5.00E-03	ND	Y	--	
2-Methylnaphthalene	1.50E-01	(a)	9.40E-02	ND	N	--
4-Methylphenol	1.80E-02	4.90E-02	ND	Y	--	
Naphthalene	1.50E-01	3.20E-01	ND	Y	--	
Phenol	2.20E+00	2.70E-02	ND	N	RBC	

Notes:

NR: No criteria for this analyte.

ND: Not detected.

note: Sample size less than 20. Data not evaluated for frequency of detection criteria.

(1) RBC = Risk Based Concentration. Comparisons were performed using the following criteria: cancer risk of 1E-06 and Hazard Index of 0.1.

(2) EPA 1997a, Risk-Based Concentration Table

(3) Background screening only applies to inorganic analytes.

(4) COPC = Chemical of Potential Concern; analyte was retained if the maximum concentration exceeded the RBC, if an RBC was not available or if the maximum concentration exceeded 2X the background mean (for inorganics only).

(a) RBC for naphthalene.

Table 15.6
Human Health COPCs in Environmental Media
AOC A

COPC	Groundwater (mg/L)	Subsurface Soil (mg/kg) (1-9.5 ft)	
	MDC	MDC	EPC
Volatiles			
Benzene	6.00E+00	--	--
Ethylbenzene	1.40E+00	--	--
Toluene	8.50E+00	--	--
Total Xylenes	5.80E+00	--	--
Semi-Volatiles			
Bis(2-ethylhexyl)phthalate	1.20E-02	--	--
2,6-Dinitrotoluene	5.00E-03	--	--
4-Methylphenol	4.90E-02	--	--
Naphthalene	3.20E-01	--	--
Miscellaneous			
TPH Gasoline*	4.70E+03	1.70E+07	4.13E+06

MDC = Maximum Detected Concentration - this is the value used in the COPC screening process
and as the EPC in the Groundwater HHRA

* - Indicates no human health risk-based screening criteria available.

(--) - indicates analyte not a COPC for the media of concern

Table 15.7
Summary of Cancer Risks and Hazard Indices
AOC A

Receptor	Media	Pathway	Cancer Risk		Hazard Index	
			RME	CT	RME	CT
Hypothetical Future Worker	Subsurface Soil	Ingestion	NC	NC	NC	NC
		Dermal Contact	NC	NC	NC	NC
		Inhalation of Dust	NC	NC	NC	NC
	Groundwater	Ingestion	6.E-04	8.E-05	2.E+01	1.E+01
		Dermal Contact	6.E-05	4.E-06	2.E+00	7.E-01
	Receptor Totals			7.E-04	8.E-05	2.E+01
Future Construction Worker	Subsurface Soil	Ingestion	NC	NC	NC	NC
		Dermal Contact	NC	NC	NC	NC
		Inhalation of Dust	NC	NC	NC	NC
	Receptor Totals			NC	NC	NC
	Hypothetical Residents: Adult	Subsurface Soil	Ingestion	NC	NC	NC
		Dermal Contact	NC	NC	NC	NC
		Inhalation of Dust	NC	NC	NC	NC
		Groundwater	Ingestion	2.E-03	2.E-04	6.E+01
		Dermal Contact (Non-Volatiles)	6.E-07	6.E-08	9.E-02	3.E-02
		Inhalation and Dermal Contact (Volatiles)	2.E-03	2.E-04	6.E+01	3.E+01
	Receptor Totals			3.E-03	5.E-04	1.E+02
Hypothetical Residents: Child	Subsurface Soil	Ingestion	NC	NC	NC	NC
		Dermal Contact	NC	NC	NC	NC
		Inhalation of Dust	NC	NC	NC	NC
	Groundwater	Ingestion	1.E-03	2.E-04	1.E+02	6.E+01
		Dermal Contact (Non-Volatiles)	3.E-07	3.E-08	2.E-01	6.E-02
		Inhalation and Dermal Contact (Volatiles)	1.E-03	1.E-04	1.E+02	6.E+01
	Receptor Totals			2.E-03	3.E-04	3.E+02
Hypothetical Residents: Adult + Child	Receptor Totals			5.E-03	8.E-04	4.E+02
	Receptor Totals			5.E-03	8.E-04	2.E+02

NC = Not Calculated given the lack of appropriate toxicity values.

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FONSI

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Finding of No Significant Impact
Construction of Gas Station, Car-Care Center, Shoppette and Class Six,
and Taco John's Restaurant
Keesler Air Force Base, Biloxi, Harrison County, Mississippi

AGENCY: Departments of the Army and Air Force, Army and Air Force Exchange Service (AAFES) Operations Center.

BACKGROUND: Pursuant to the President's Council on Environmental Quality (CEQ) regulations, Title 40 Code of Federal Regulations (CFR) Parts 1500-1508, implementing the requirements of the National Environmental Policy Act (NEPA) of 1969, 42 United States Code (U.S.C.) 4321, et seq., and the Air Force Instruction (AFI) 32-7061, The Environmental Impact Analysis Process (EIAP), as promulgated at 32 CFR Part 989, the AAFES conducted an assessment of the potential environmental consequences of the construction of a gas station, car-care center, shoppette and class six, and fast food restaurant on Keesler Air Force Base (AFB), Biloxi, Harrison County, Mississippi. The Environmental Assessment (EA) attached herein evaluated all potential impacts of the proposed action and the no-action alternative. The environmental consequences of the proposed action are summarized in the following sections.

PROPOSED ACTION: AAFES proposes to construct a gas station, car-care center, shoppette and class six, and fast food restaurant for use by authorized patrons at Keesler AFB. Activities at the proposed facility would consolidate activities currently housed in separate buildings and additionally would include a fast food service. The building currently containing the shoppette and class six would be returned to the base for other uses. The contractor would be required to implement standard environmental protection measures that would include methods to minimize construction impacts on natural resources and control sediment and erosion.

EARTH RESOURCES: Soils would not be impacted because the site has already been disturbed by past development activities. Soil erosion and sedimentation would be avoided by adherence to the Sediment Control Plan. No geological or topographical features would be affected.

AIR QUALITY: Construction and demolition activities would temporarily produce small amounts of emissions. Implementation of proper dust control measures would reduce emissions up to 50 percent. Emissions generated during the construction, demolition, and operation of the proposed facility would not impact any existing air permits at Keesler AFB.

WATER RESOURCES: The proposed action would slightly increase the amount of impervious surface area on the base. Because the site is located within a developed area, the existing stormwater system would be sufficient to handle any potential increase in stormwater runoff. There would be no impacts to surface water, wetlands, or floodplains. Any potential increase in non-point source pollutants from additional vehicles using the facility would be minimized through adherence to the Keesler AFB Stormwater Pollution Prevention Plan (SWPPP).

NOISE: The proposed action would result in temporarily increased noise levels during construction and demolition work hours. This increase in noise levels would be temporary and would only occur during daylight hours. Operational activities would result in a minimal noise increase due to increased traffic from deliveries to the facility, as well as customer vehicles entering and exiting the area.

HAZARDOUS MATERIALS AND WASTES: The proposed action would increase slightly the amount of hazardous wastes generated at Keesler AFB. All hazardous wastes would continue to be handled as currently handled. Any hazardous materials stored or used at the facility, or brought on site during construction or demolition activities, would comply with Keesler AFB hazardous management policies.

Earth moving activities at the preferred site would most likely result in the disturbance of contaminated soils and potentially groundwater. Soil and groundwater analytical results concluded that BTEX and naphthalene exist in groundwater while TPH exists in subsurface soils. Soils at the site are currently undergoing corrective action which include interim measures, such as bioventing and density-driven convection (DDC), for removing

petroleum hydrocarbons. Concentrations in the soils have reduced and will continue to be monitored as a part of a long-term monitoring and evaluation plan. For groundwater, the selected remedial alternative for groundwater consists of natural attenuation and long-term monitoring with land use controls (LUCs). Requests to waive existing LUCs would be submitted through a two-step process involving internal United States Air Force (USAF) review and approval and coordination with the United States Environmental Protection Agency (EPA) and Mississippi Department of Environmental Quality (MDEQ).

Base surveys also conclude that the preferred site contains asbestos and potentially lead-based paint. During construction and demolition activities, construction workers may contact asbestos or lead-based paint. These materials would be handled in a safe manner in accordance with base plans and procedures.

BIOLOGICAL RESOURCES: Habitat that would be suitable for biological resources does not exist on the proposed site; therefore, the proposed action would have no effect on wildlife or plants as a result of implementing the proposed action.

INFRASTRUCTURE/UTILITIES: The existing infrastructure and utility systems have adequate capacity to supply services for the proposed action. The proposed action would require the irreversible and irretrievable commitment of energy resources during construction, demolition, and operation. Incorporating energy-saving methods into the new facility would likely offset some of the increased energy demands.

CULTURAL RESOURCES: The preferred site contains no identified historical or archaeological resources.

SOCIOECONOMIC RESOURCES: The proposed action would have a slight positive effect on Keesler AFB's economy by enhancing on-base services and increasing the revenues available for Morale, Welfare, and Recreation (MWR) services. The hiring of additional personnel would enhance some employment opportunities. There would be no effects to land-use designations or to off-base economic or social impacts as a result of the proposed action. There would be no effects to minority or low-income populations.

SAFETY AND OCCUPATIONAL HEALTH: The proposed action would not affect the safety and health of AAFES employees or customers. All construction and demolition contractors and operations personnel would be responsible for compliance with applicable Occupational Safety and Health Act (OSHA) regulations concerning occupational hazards. Because of the environmental contaminants present at the proposed site, an approved Health and Safety Plan must be prepared for the site requiring that all workers be 40-hour Hazard Waste Operation and Emergency Responder (HazWoper) trained and certified personnel. A Health and Safety Officer would be on site during all construction and demolition activities.

FINDING OF NO SIGNIFICANT IMPACT: Based upon my review of the facts and analyses contained in the attached EA, I conclude that the proposed action will not have a significant environmental impact. Accordingly, the requirements of NEPA, CEQ regulations, and the EIAP are fulfilled and an environmental impact statement is not required. The Draft EA and FONSI were made available for agency and public review during a 30-day period prior to initiation of the proposed action. The Draft EA and FONSI were distributed to the appropriate government agencies, and public comments were solicited in a Notice of Availability (NOA) published in The Sun Herald, Gulfport, Mississippi on October 19 and November 4, 2002. The signing of this Finding of No Significant Impact (FONSI) completes the USAF EIAP.

22 JAN 03
Date


MICHAEL W. PETERSON, Brig Gen, USAF
Commander
81st Training Wing

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Affidavits, Proof of Publication

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